FEB 14 1906

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LECTURE II.[1]

Delivered on Nov. 9th, 1905.

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GASTRIC ULCERS.

In the autumn of 1894 Mr. A. Pearce Gould[2] opened a discussion at the annual meeting of the British Medical Association at Bristol on the surgical treatment of simple ulcer of the stomach and duodenum, and typhoid ulceration of the ileum and colon. This debate did a great deal to encourage this branch of surgery in this country and clearly defined the steps of the operation which are essential when any of these ulcers have perforated. There is no doubt that the profession has been much indebted to Mr. Gould for the able manner in which he brought forward the subject, for it did much to encourage operative treatment as a matter of routine. At that time the introducer of the discussion only knew of seven cases of successful operation for the perforation of a gastric ulcer. At the present time the diagnosis and main principles of treatment are so well understood that no surprise is expressed when recovery follows operation. Success is usual and depends more on the individual patient and the time which has elapsed since the perforation took place than on anything else.

In the volume of the St. Thomas's Hospital Reports for 1904 will be found a paper by Mr. P. W. G. Sargent on Pathological Perforation of the Stomach and Duodenum founded on 125 cases which have been treated in St. Thomas's Hospital. The series includes seven cases in which perforation complicated carcinomatous ulcer, 20 in which the peritonitis was localised to the neighbourhood of a chronic gastric ulcer, and two in which this limited inflammation complicated chronic duodenal ulcer. This leaves us with 49 perforations of gastric ulcer (four of them acute) and 21 perforations of duodenal ulcer (three of which were acute) in which there was more or less diffuse peritonitis. He reminds us that the first operation for perforation of a gastric ulcer in St. Thomas's Hospital was done in 1892. This was not successful but in August, 1896, a success was obtained for the first time. Altogether, up to the end of 1904 49 cases had been submitted to operation, the ulcer being treated by suture and the peritoneum washed out. 58·1 per cent. of them recovered. The average time in the successful cases that had elapsed between perforation and operation was 23 hours; in the fatal cases 32·6 hours. I am permitted by Mr. Sargent to reproduce an illustration which shows very clearly the position of the ulcer in 77 examples of perforation and you will notice how much more frequent the perforations are on the anterior than on the posterior surface. His series thus confirms the recognised fact as to the greater frequency of perforations on the anterior surface, these being—anterior 3 represented by black dots (the difference is not well marked in the illustration); and posterior 11, represented by circles (see illustration). The results of operation in the second half of the period which he has selected are better than in the first. Cases are recognised and sent into hospital earlier and operation is more quickly and surely performed.

In these cases the symptoms, which are grouped under the word peritonism, are usually very marked and the signs of distress are unmistakeable. There is considerable variation as regards the amount of shock; sometimes it is so excessive that nothing can save the patient. Shock is followed by collapse and the patient dies in a few hours without response to medical treatment. Only this autumn a girl was admitted under the care of Dr. H. W. G. Mackenzie with a history of sudden seizure of pain in the region of the stomach so severe that she screamed out and had to be carried home from the tram out of which she had just alighted. When seen at the hospital about an hour later the diagnosis of gastric perforation was confirmed but the

state of shock was so profound that every means to combat this was tried, including saline infusion into the veins, but without success, and the patient died within six hours of the perforation. She was quite unconscious and made no resistance to abdominal examination, nor did she complain of pain. There was a large perforation of about the size of a penny in the anterior wall of the stomach near the pylorus. A curious fact noted by Dr. W. H. Harwood-Yarred was the presence of extensive gaseous emphysema of the body a few hours after death.

As a rule the patient rallies from the shock satisfactorily and other symptoms develop which resemble very much those met with in perforations of other parts of the digestive tract. In gastric and duodenal cases, perhaps more than in others, the previous history is of importance, especially if morphine has been given to relieve the pain. There is nothing like morphine to mask symptoms and many a case has been lost owing to the injudicious administration of the drug in an attempt to relieve the pain at all costs. It is not wrong to give this drug when the diagnosis has been made and the course of action decided upon but there must be no going back because the patient "appears" better. In a large percentage there is vomiting after the perforation but the absence of vomiting is not against the diagnosis of perforation.

Probably there is no form of the acute abdomen in which there is a greater amount of fluid to be found free in the peritoneum; at the operation only a few hours after the accident had happened one has been surprised to find the flanks and pelvis full of a thin greenish fluid, acid and sour-smelling. This statement applies to cases in which the stomach was comparatively empty at the time as well as to those in which the perforation followed a large meal. Much of it is doubtless of a protective character thrown out from the surface of the bowels and omentum in response to the irritation of the acid contents of the stomach. In this respect it resembles very closely the condition which obtains soon after the sudden rupture of the wall of an appendix abscess and the escape of the pus into the peritoneum. Rigidity of the recti muscles in the upper part of the abdomen will be present with great tenderness in the epigastric region.

In any case in which there is a difficulty in diagnosis between a perforated gastric ulcer and an acute diffuse peritonitis secondary to a gangrenous appendix the presence of much free fluid within a few hours after the accident should give a strong leaning towards the stomach as the origin of the symptoms. A tympanitic note over the liver region in an abdomen which is not distended is a very important sign of intestinal perforation and is very commonly observed in gastric perforations soon after the

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sudden onset of pain. Its absence must not, however, be regarded as a reason for postponing operation in a case otherwise calling for it. It was not present in the following instance of severe perforation in which the accident occurred although the patient was under exceptionally advantageous conditions, the stomach having had rest for two days.

A man, aged 48 years, was admitted under the care of Dr. Mackenzie on Sept. 30th, 1904, with symptoms of gastric ulcer. The history of the case was that he had been often sick in 1902 and 1903. Vomiting occurred about half an hour after food and the vomited material was very acid. In January, 1904, he vomited a large amount of blood which was very black; this vomiting recurred a few days after. In July he had a similar attack of hæmatemesis. When admitted he was suffering a good deal from pain in the epigastric region and was obliged to lie on the left side. The abdomen was normal in appearance and with the exception of tenderness in the epigastrium was without evidence of disease. He was unable to keep down milk sometimes. In the next few days he complained at times of severe local pain and hot fomentations were required for his relief. Vomiting also occurred at intervals. On Oct. 22nd it was decided to put him on rectal feeding and to give nothing by the mouth. At 2 A.M. on the 24th he had a severe attack of pain, perspired very freely, and his pulse rose to 120. When seen with Dr. Mackenzie 12 hours later he was evidently suffering acutely. Lying on his back with head and shoulders raised, he looked pale, agitated, and intensely anxious, whilst his face and forehead were covered with sweat. His respirations were hurried, painful, shallow, and irregular, the pulse was rapid, and he complained much of pain in the abdomen. He was unable to take a deep breath on account of the pain, and on examination of the abdomen it did not move much with respiration. It was generally tender, rigid, and rather distended. The liver dulness had not disappeared; there was dulness in both flanks and also across the lower abdomen above the pubes. He had vomited. The temperature was 100·6° F.

Operation was performed as soon as possible. On opening the peritoneum there was a flow of greenish thin, sour-smelling fluid. The stomach was somewhat adherent to the under surface of the liver and when they were separated by the finger there was a gush of free gas. The finger was passed to the pyloric region at once because of the diagnosis of perforation of ulcer in that situation made out by Dr. Mackenzie. A sharply cut ulcer, large enough to admit the forefinger, was found on the anterior surface of the pyloric end of the stomach. The stomach wall round this perforation was much thickened. The opening of the ulcer was closed. The peritoneal cavity appeared to be filled with the greenish fluid, there being large collections in the pelvis, the flanks and the sub-hepatic and splenic regions. A counter opening was made above the pubes and the whole abdomen was thoroughly irrigated with normal saline solution. The intestines were not much distended. The deposit of lymph was limited to the parts around the perforation. Normal saline solution to the amount of two pints was passed into the median basilic vein during the operation as the pulse became very feeble and rapid. The stomach was a good deal dilated. The upper wound was closed and a glass drain was placed in the lower one. Recovery was slow but satisfactory and he left on Dec. 7th for his home in the country. From recent accounts it is probable that he is now suffering from pyloric obstruction and dilated stomach; indeed, it would be very strange if he escaped this complication, for the nature of the ulcer compelled the infolding of an unusual amount of stomach wall.

PERFORATIONS OF DUODENAL ULCERS.

These ulcers are far less frequently met with than the gastric and it is not always possible to diagnose the one from the other. They are far more common in males. Osler[3] says that they may be distinguished by the following definite characters: "(*a*) Sudden intestinal hæmorrhage in an apparently healthy person which tends to recur and produce a profound anæmia. Hæmorrhage from the stomach may precede or accompany the melæna. (*b*) Pain in the right hypochondriac region, coming on two or three hours after eating. (*c*) Gastric crises of extreme violence during which the hæmorrhage is more apt to occur. Certainly the occurrence of sudden intestinal hæmorrhage with gastralgic attacks is extremely suggestive of duodenal ulcer." Unfortunately, in many cases there is no history of local pain preceding the acute attack.

From the surgeon's point of view these cases are especially interesting because it is frequently very difficult to distinguish perforations of these ulcers from acute disease of the appendix with peritonitis, especially if the appendix is situated to the outer side of the cæcum or has never attained its proper position in the iliac region. "When the ulcer is in the stomach the signs are those of a general peritoneal involvement; when the ulcer is duodenal the course taken by the extravasated fluids leads to a more acute and earlier involvement of the peritoneum on the right side and in the right iliac fossa. The clinical picture of appendicitis is expressed with such accuracy that of 49 recorded cases, in 18 the first incision was made over the appendix after a diagnosis of acute appendicitis had been made."[4] At the time of operation the appendix may be found surrounded by an area of inflamed peritoneum and may be itself so inflamed that the surgeon is misled. It would be well, therefore, to examine the duodenum in its first part when the apparent disease of the appendix is not manifested by gross naked eye change, such as gangrene or perforation.

SIMPLE ULCER OF THE JEJUNUM.

The knowledge that an ulceration of the jejunum is one of the forms of disease of the small intestine which must be considered by the surgeon in the present day was due in the first place to Braun. In 1899 he met with a case in which an ulcer of that part perforated and produced a fatal peritonitis. This ulcer produced symptoms a year after the operation of posterior gastro-enterostomy. Since that time there have been recorded 16 cases in which ulceration of the jejunum has required surgical treatment. In all these there had been a previous operation performed, that of gastro-enterostomy, for the relief of some non-malignant disease of the stomach. To these must be added two more, making a total of 19. I have purposely refrained from using the term "peptic" as applied to these ulcers, for it is not proven that they are all, or any of them, due to the hyperacidity of the gastric juice; indeed, in more than one the state of the gastric juice is described as normal. The appearance of these perforations in the two cases here described was certainly similar to that of some perforated gastric ulcers and perforated duodenal ulcers. They also resembled the ulcers in two cases of perforation of the ileum during the course of typhoid fever, on which operation was (successfully) performed at the request of Dr. Mackenzie; the naked-eye appearances were quite similar. They are probably due to an acute bacterial invasion but I do not think the term "peptic" should be used. It is an interesting fact, however, that they are only met with after the operation of gastro-enterostomy and chiefly after anterior gastro-enterostomy—for example, out of the 19 cases two followed posterior gastro-enterostomy, one the Y operation of Roux, while the particular operation is not given in the account of one case, and no less than 15 followed anterior gastro-enterostomy.

The most fatal complication of jejunal ulcer is acute perforation and in this, as in the other complications, it resembles other simple ulcers of the digestive tract. This occurred in eight instances from ten days to 13 months after gastro-enterostomy. Operation was successful in saving three of them—one treated by Dr. Goepel and two now recorded. A more gradual perforation, with the formation of a localised abscess, was a much less serious occurrence, for in six instances operation was followed by recovery, whilst in a seventh fistula resulted. A successful result also followed in three cases where the progress of the ulceration was more chronic and adhesions of the base to the parts beneath had taken place. The amount of thickening about one of these chronic ulcers and its involvement of surrounding tissues may be extensive.

In a case recorded by Quénu the symptoms of ulcer came on four years after gastro-enterostomy, and at the operation extensive ulceration had passed beyond the bowel into the abdominal wall, its extent being limited by adhesions. In a case under the care of Mr. A. W. Mayo Robson the symptoms were severe and distressing and the local signs were definite, whilst the extent of bowel involved required an extensive operation for the removal of the disease similar

[3] Principles and Practice of Medicine, p. 400.

[4] Diseases of the Stomach, Mayo Robson, p. 336.

to that performed by Quénu. In both cases a similar resection of the ulcerated bowel was performed, the jejunal end being placed into the stomach and the duodenal into the side of the jejunum lower down.

The two cases which came under treatment by me were as follows:—

CASE 1.—The patient, a man, aged 30 years, was admitted to City Ward, St. Thomas's Hospital, on July 15th, 1904, for acute abdominal distress. He stated that about four hours before admission he had been seized with violent pain in the abdomen, vomiting, and hiccough. A medical man who was called in sent him to the hospital. On admission the abdomen was moderately distended and did not move on respiration. A rounded prominence was visible in the epigastrium, and immediately below this another and smaller prominence, the latter being situated just above the umbilicus. Distension was most marked in the epigastric and umbilical regions and there was obvious fulness of the flanks. There was no hyperæsthesia of the skin, but considerable, yet not intense, tenderness. No definite tumour could be felt. The resonance was impaired in both flanks, but no fluid thrill could be felt nor was the dulness a shifting one. Elsewhere the note was of a tympanitic character, this being especially marked in the epigastric region. The liver dulness was entirely obliterated, the note over the region of the liver being decidedly tympanitic. The general condition of the patient was good. The temperature was 98° F., the pulse was 100, and the respirations were 20.

The presence of a scar in the abdominal wall caused questions to be asked about previous operation and the following history was obtained, some of which was subsequently verified. He had suffered from indigestion after he became 16 years old and three years ago he was much troubled with vomiting from a quarter of an hour to two hours after food and on one or two occasions he brought up blood. 22 months previously he underwent an operation in Queen's Hospital, Birmingham, for pyloric obstruction after gastric ulcer. Anterior gastro-enterostomy was performed, a Murphy's button being used to approximate the parts. His progress after this operation was uninterruptedly good until March 4th, 1904, when he was seized with pain in the abdomen and he had to go into the hospital again for "obstruction"; at this operation the Murphy's button was removed.

An incision was made immediately to the right of the middle line above the umbilicus through the rectus sheath, the muscle being temporarily displaced outwards. There was a rush of gas when the peritoneum was opened and a greatly distended coil of bowel presented below the wound; this was punctured and emptied of much gas. The opening was closed with Lembert silk sutures and the coil was returned. The stomach, which was much distended, was drawn into the wound; the point of attachment of the small intestine to the gastric wall was defined and a small round perforating ulcer, about a sixth of an inch in diameter, was located in the anterior part of the jejunum at a distance one and a quarter inches from the point of attachment of the latter to the stomach. The stomach and the upper part of the jejunum were as far as possible emptied of gas through the ulcer and this was then turned in with a single row of Lembert's sutures. The coils of jejunum in the immediate neighbourhood of the perforation were greatly distended, thickened, and of a dull red colour. A small amount of free purulent fluid was present in the abdominal cavity with patches of lymph on the intestinal coils. A second incision was made in the middle line above the pubes and the peritoneal cavity was thoroughly irrigated with normal saline solution. A Keith's drainage-tube was then inserted into the pelvis through the lower incision and the upper wound was closed. The man's general condition at the end of the operation was good.

There is not much to record in the after progress of the case. The patient was sick three times during the night following the operation, bringing up each time large quantities of greenish fluid. In the morning a turpentine enema was administered with a very good result. Sulphate of magnesia (two teaspoonfuls) was given every four hours. The abdomen was very slightly distended and not very tender; it moved to some extent with respiration, though not freely. The pulse was 104 and the respirations were 20. The bowels acted again on the following day, the abdominal distension subsided, the man became much more comfortable, and towards night the sickness ceased. The Keith's tube was replaced by a rubber one of smaller size, there being very little discharge. Two days later this was removed altogether. He left the hospital on August 8th, having completely recovered.

The second case was very similar but the symptoms were much less acute at the onset. The previous history was a very interesting one.

CASE 2.—The patient, an unmarried woman, aged 37 years, was sent to the hospital by Mr. J. Scott Battams and admitted under the care of Dr. Mackenzie on March 25th, 1903, with symptoms of perforated gastric ulcer, which had commenced four and a half hours before. Operation was performed by me at 11.15 P.M. and an ulcer near the pylorus and on the anterior surface was found and sutured, the peritoneal cavity was washed out, and the pelvis was drained. At the operation it was noted that there was a good deal of cicatricial narrowing of the pylorus. She left hospital on May 12th and continued well until October, after which her gastric pains recurred. She was re-admitted in April, 1904, and anterior gastro-jejunostomy was performed. The stomach was dilated, the lower border reaching the level of the umbilicus. The pylorus was much strictured. The operation was on the 8th and she left hospital on April 28th.

The patient appears to have done very well afterwards and regarded herself as cured until May, 1905, when she was again sent to the hospital by Mr. Battams. About six hours before admission on May 5th she had a severe attack of pain, especially in the right side of the abdomen, with vomiting. The bowels had acted twice on that day. When examined in the ward the abdomen did not appear to be distended and moved freely in respiration. The liver dulness was normal and there was normal resonance in other parts. The pulse was 72; it was good and strong. The temperature was normal. There was, however, slight tenderness all over the abdomen with more evident tenderness above, and to the left of, the umbilicus. She vomited two or three times during the night; on the morning of the 6th the temperature had been up to 99·4° F. and a distended coil of small intestine was seen above, and to the left of, the umbilicus. There was tenderness as before but it was more marked over the distended coil. When seen by me at 2 P.M. the condition was much as above described but the distension of the small intestine in the umbilical region was greater and there was visible peristalsis.

Operation was performed 23 hours after the first onset of pain, the abdomen being opened through the left rectus sheath about an inch from the middle line. A red and distended coil of small intestine presented which traced upwards led to the old gastro-enterostomy junction; from this a greatly distended coil passed downwards, on the anterior aspect of which, one and a half inches from the line of junction, was a somewhat rounded opening from which gas and intestinal contents were escaping. The coils near were much thickened, œdematous, and distended, there being lymph on the surfaces near the perforation. A knife was introduced through the ulcer and a cut was made upwards, so that the line of junction between the stomach and intestine could be explored; the finger passed easily into the stomach and then into the jejunum beyond the line of junction. There had been no contraction of the openings. The continuous silk suture which had been employed to unite all the coats of the stomach and intestine was felt lying partly detached, and removed. It was apparently unaffected by the action of the gastric juice. After the distended coils had been emptied, the incision was closed with silk Lembert sutures, and the intestines were washed with sterilised saline solution. A second incision was now made in the middle line above the pubes through the old scar and the pelvis was emptied of a small amount of purulent fluid which was not of offensive odour. It was well cleansed with sterilised saline solution and both wounds were then sutured without drainage. Shock was counteracted by the administration of half a pint of saline solution per rectum every two hours. The patient soon rallied from the shock and complained of no pain. Progress was satisfactory until May 11th when she vomited once. She vomited several times on the 16th, and again on the 17th, and on this date the pulse was quick and feeble. A suggestion was made that there was obstruction of the opening of gastro-enterostomy, but this had already been found to be in a satisfactory condition. Her temperature was normal, the abdomen moved well and was without distension. Rectal feeding and washing out of the stomach sufficed and no vomiting occurred after May 20th, when she was allowed to

take milk in small amounts. On June 1st she was taking ordinary diet. She left the hospital on June 2nd and has continued well since, showing no tendency to weakness of the various scars.

There are various points in these cases which are worth attention. 1. In both the ulcers gave no intimation of their presence until perforation occurred. 2. The symptoms were very much like those resulting from an obstruction by a band, there being well marked localised distension and peristalsis of the bowel near the perforation. 3. The distension of the bowel when exposed was found to be very great, but it could be relieved by forcing the contained gas through the perforation, after which manipulation was easy. In the first case it was not so easy to find the perforation. 4. In neither case was it necessary to excise the ulcer which was of limited extent and without much thickening of the edges. 5. In both a counter opening was required for satisfactory cleansing of the pelvis, but both wounds were closed, without drainage in the second case. The proportion of recorded cases of simple ulcer of the jejunum to the cases of gastro-enterostomy appears to be much against the anterior method of operation, but this tells as an argument less forcibly than would appear because it is very probable that the anterior operation has been performed much more frequently than the posterior. The anterior operation, moreover, possesses advantages which are likely to make it the more favoured operation of the future. The danger of the formation of this kind of ulcer is so slight that it may be neglected in considering the question.

PERFORATIONS OF THE SMALL INTESTINE MET WITH DURING THE COURSE OF AN ATTACK OF TYPHOID FEVER.

This group differs from the others which we have been considering inasmuch as the "acute abdomen" develops during the course of an illness which may have already severely tried the strength and endurance of the patient. It has been calculated by Dr. Mackenzie[5] that 3·3 per cent. of all cases of typhoid fever die from this complication; and further, that 69·6 per cent. of them occur during the second, third, or fourth week of the illness. His lecture is so very interesting and instructive that you cannot do better than read it for yourselves. Peritonism, the result of a perforation of the ileum, is often not very marked, and unless some such series of rules as those suggested for the nurse by Professor W. Osler[6] in cases of typhoid fever be enforced the occurrence may be overlooked. As a rule these patients are under skilled observation, therefore there is a chance for them which is not afforded the majority of those in our other groups. They are watched from the beginning and every preparation is made for operation at the earliest moment. Then, again, the contents of the ileum in this disease are frequently scanty and the perforation may not admit of the escape of much fluid; at all events the sensitive peritoneum is not flooded at once with a highly irritating acid compound, the amount of which rapidly increases from minute to minute.

About this time last year (November, 1904) a man, aged 30 years, was under treatment for suppurative periostitis of the femur and when the pus was evacuated a bacteriological investigation showed the presence of many typhoid bacilli in it. When he left the hospital the wound had closed. The history of this patient was briefly as follows. At the request of Dr. Mackenzie operation was performed on July 11th, 1902, five and a half hours after the commencement of symptoms indicating perforation. There had been sudden pain in the umbilical and right iliac regions, soon followed by vomiting. There were before operation the following local signs: resistance and tenderness in the umbilical and right iliac regions with deficiency in movement of the lower abdomen. The liver dulness was normal. There was no evidence of free fluid. The pulse was 104 and the temperature was 101° F. The amount of shock was slight. Incision below the umbilicus showed a round, clean-edged perforation about a quarter of an inch in diameter. There were some yellowish faculent fluid around the perforation and a small amount of lymph. The patient made a satisfactory recovery from the effects of the perforation but returned later for pain in the thigh which subsided under appropriate treatment. He was able to return to his work as a coal-heaver in the following year and continued to do it until the attack of periostitis to which I have alluded. I may mention here as a curious addition to this history that the wound reopened after he left the hospital and as recently as December, 1904, the pus contained typhoid bacilli on bacteriological examination.

A second patient was also under the care of Dr. Mackenzie and symptoms of perforation had been noted 12 hours before operation on Dec. 4th, 1901. He was a man, aged 22 years, and the complication developed during a relapse. At the time of operation there were pain, distension, shifting dulness, indicating fluid in the flanks, extreme tenderness in the right iliac fossa, and a complete absence of dulness in the liver region. The pulse was 94, the respirations were 26, and temperature was 102·4° F. This temperature fell rapidly to 97° after operation, but soon rose again. Incision below the umbilicus showed a similar condition to that in the previous case, yellowish fluid, a coil of ileum to which a tag of omentum was adherent, and when this was lifted up a sharply cut circular ulcer measuring about one-eighth of an inch across was seen below it. Suture of the ulcer and cleansing of the peritoneum sufficed to prevent further local mischief and the patient recovered.

I have mentioned the subject of typhoid ulceration, of which I was reminded by the readmission of the man whose case I have first recorded when some of the other patients with perforations of the digestive tract were in the wards, because I especially wish to draw attention to the character of these perforating ulcers. They were no different from those which I have mentioned as occurring in other parts of the digestive tract; the perforation was that of an ulcer far removed from the influence of the gastric juice but possessing appearances which were quite indistinguishable from them. We cannot call them "peptic" and I can but think that too much importance is attached to the effect of the gastric juice on the jejunal ulcers which very rarely follow the operation of gastro-enterostomy. These ulcerations are very different from the typical typhoid patch with its thinned base and the prognosis is, of course, very much better, for the wall of the bowel near to the perforation is quite firm and will hold a stitch. In fact, in the second case the edges were drawn together with a No. 1 silk suture to prevent further escape of contents before Lembert's sutures were inserted. The amount of the shock was not severe in either patient. The rate of the pulse in the first was increased in frequency from 68 to 84, 45 minutes after the time of the perforation and to 104 three hours after. In the second it was more constant at 95 from two hours to ten hours after the time of the perforation. Patients with typhoid fever often suffer from abdominal pain. This has been so severe that abdominal exploration has been performed a number of times without anything having been found to account for the pain. The principal symptoms to trust to are, locally, pain and tenderness with rigidity of muscles and a fixity of the lower abdomen during respiration. If the liver dulness is absent the sign is important. In one of these cases there was no change in this respect even at the end of five and three-quarter hours after perforation.

[5] THE LANCET, Sept. 28th, 1903, p. 863.

[6] Philadelphia Medical Journal, 1901, Jan. 19th. See also Mackenzie, loc. cit.

PLACENTA PRÆVIA: A SERIES OF 94 CASES.

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THE patients forming this series were all treated either in the London Hospital or in their own homes by the London Hospital Maternity Charity in the years 1894–1904. Ten of the cases were attended personally. Seeing that the patients have been under the care of some fifteen or twenty different resident accoucheurs they may be expected to show an average result of the treatment of placenta prævia by modern methods, particularly by the use of a de Ribes bag. I wish to thank Dr. A. H. N. Lewers and Dr. H. R. Andrews for leave to publish these cases.

In discussing placenta prævia the main interest centres in the treatment, which consists in the methods of dealing with one variety of acute hæmorrhage, a subject which appeals

to every medical man. This point of view is the more necessary in the present series, since the notes of the cases were made from a clinical aspect, anatomical and pathological description being conspicuous by its absence. Therefore, leaving out the question of etiology and briefly alluding to a few general facts concerning the cases, attention will be directed to the diagnosis and prognosis, but especially to the treatment, of this condition.

General facts.—In this collection there are 94 cases, of which six mothers died, or 6·3 per cent., whilst of 93 infants 49 died, or 52 per cent. As regards parity, of the 76 cases in which it is mentioned 12 were primiparæ whilst 36 had had five labours or more previously. None of the primiparæ died, which is a matter of some interest, since King in his series found the mortality of primiparæ to be 30 per cent., the general mortality in his collection being 22 per cent. Twin labours occurred twice in the series, of which three infants and one mother died. Recurrence in one case is noted in the three preceding labours. Hydramnios was reported in four cases, two of these being of the ten cases seen personally. Prolapse of the cord happened in three cases out of 54 in which the de Ribes bag was not used and in four cases out of 40 in which it was used. Post-partum flooding was noted in 14 cases, in four of which the placenta was adherent; adherence of the placenta was found in two other cases without post-partum hæmorrhage. There seems to be a peculiar tendency for a placenta with a low implantation to become adherent. In two cases of post-partum hæmorrhage there was atony of the uterus; both died. One case of puerperal melancholia is recorded.

Diagnosis.—Since an early diagnosis is an essential feature in the successful treatment of placenta prævia it is clear that any means of detecting this condition before the os uteri will admit the finger is of great service. Levret more than a century ago noticed that in some cases of placenta prævia the uterus as felt through the abdomen consisted of two parts, the smaller corresponding to the placenta. Spencer, in 1889, was the first to lay especial stress on palpation of the placenta through the abdominal wall as a means of detecting placenta prævia. In Case 62 a doughy mass was felt in the abdomen below the fœtus which was suspected to be placenta; examination per vaginam showed this to be the case, the os here admitting the finger. In Case 2 an indefinite mass was felt in the lower part of the abdomen also through the vagina; this mass could be felt between the head of the fœtus and the examining finger in the fornix; the os in this case did not admit a finger. After some deliberation this was judged to be placenta and the os was dilated; the placenta was partially prævia. It is necessary that the abdomen should be fairly thin to feel the placenta through it with any degree of certainty. It is interesting to note that flooding may occur from a low implantation of the placenta which may not be perceptible to the fingers until they penetrate a considerable way inside the os uteri. Cases 5 and 61 are examples of this; in both, to judge by the amount of clot which was expelled with the placenta, the hæmorrhage was at first concealed, the flow of blood having stripped the membranes from the uterus until the os uteri was reached when the flooding became manifest externally. Cases 4 and 61 contrast well, since in the former there was no flooding but only early rupture of the membranes, slow labour, and prolapsed cord; the latter, with a very similar position of the placenta, suffered from a great flooding. The severity of the hæmorrhage by no means depends in all cases on the position of the placenta.

Differential diagnosis.—As has been already pointed out, abdominal palpation and bimanual examination before the os admits a finger may prove of great service in the distinction between flooding due to low implantation of the placenta, or unavoidable hæmorrhage, and that occurring when the placenta is situated above that zone, or accidental hæmorrhage. In a stout patient, however, it is necessary to introduce a whole hand into the vagina and a finger into the uterus before the presence or absence of placenta on the lower zone can be ascertained. In a case of rupture of the uterus, the history of labour advancing to the second stage without flooding, the sudden hæmorrhage and disproportionate collapse of the patient, and a bimanual examination revealing recession of the presenting part and probably the fœtus and uterus lying separate to some extent should make the condition fairly clear. At the same time it may be remembered that cases of ruptured uterus complicating placenta prævia have been reported.

As regards flooding from the lower part of the genital canal—that is to say, cervix, vagina, and vulva, the possible history of injury, the presence of a wound, a growth, or varicose veins will aid in diagnosis. Still, flooding may occur so violently as to endanger life in a few moments and so rapidly as to leave but little time for diagnosis. For this reason I record Case A, in which the flooding and collapse were so sudden that the source of hæmorrhage was not exactly ascertained, though I strongly suspect it to have come from a ruptured varicose vein in the vagina. In this case means were taken to exert pressure on any bleeding point there might be in the genital canal from the upper end of the lower uterine segment down to the vulva.

Prognosis.—The most important factor in the prognosis of these cases is the treatment adopted. This is shown by the great lowering of the death-rate following on a proper appreciation of the causes of bleeding and the adoption of rational means of stopping it—namely, by direct pressure on the bleeding point: an advance which is associated with the names of Legroux, Barnes, Braxton Hicks, Hofmeier, Behm, and others who have adopted their principles and methods. There remain, however, certain conditions outside the power of the medical attendant which influence the prognosis. The maternal death-rate rises with the prolongation of pregnancy. 62 labours occurred in the various months of pregnancy in the following proportion:—Seven months, 9; eight months, 19; nine months, 17: and term, 17; the percentage mortality of mothers and infants being:—seven months—mothers 0 per cent., infants 100 per cent.; eight months—mothers 10 per cent., infants 68 per cent.: nine months—mothers 6 per cent., infants 47 per cent.; and term—mothers 18 per cent., infants 41 per cent.; showing that a prolongation of pregnancy to the last month more than doubles the danger to the mother while the infant mortality is reduced by one-third, a sufficient reason for inducing labour as soon as a diagnosis is made.

The extent to which the placenta encroaches on the lower uterine segment is likewise of moment in the prognosis; of 85 cases the placental insertion and maternal deaths were as follows: Central 15, mothers died 4; partial 25, mothers died 1; marginal 36, mothers died 0; and lateral 9, mothers died 0. That is to say, the mortality in complete placenta prævia was over 25 per cent., in partial cases, 4 per cent., and in lateral and marginal, *nil*.

A third and very important factor in prognosis is the condition of the patient when treatment is commenced with regard to (1) anæmia and collapse, and (2) stage to which labour is advanced, the former depending largely on the latter, as is clear from the following considerations. In 45 cases the os uteri would admit three fingers or less; only two of these died, in one of which the os was dilated manually for two hours. In six cases the os was from half to fully dilated, of these two died; moreover, in the two remaining cases which died and in which the size of the os is not stated it is related that a leg was brought down, from which it is probable that some considerable dilatation of the os was present. This shows the prime importance of early diagnosis and treatment, since it is manifest that those cases did worst which were farthest advanced in labour when treatment was undertaken, in consequence doubtless of the greater amount of flooding and collapse which occurred before help arrived.

TREATMENT AND RESULTS.

The cases are divided into four groups, according to the variety of treatment used. I begin at the end of the series, leaving for fuller consideration the cases in which the de Ribes bag was used.

Group D.—This series of 27 cases consists of those in which no treatment or only such minor steps as rupturing the membranes or giving ergot were taken. The cases were mostly of a mild nature, there being no case of complete placenta prævia in the set; two cases were certainly severe, the pulse-rate in one being 140. None of the mothers died. Only six infants, or 22 per cent., died. There were five cases of post-partum hæmorrhage, two of which were considerable. There are then a certain number of cases in which treatment, except of the slightest, is not necessary; such cases, however, need watching, for there is always a chance of flooding till labour is complete. To use no treatment, or such apologies for treatment as the injection of styptics as a routine, leads to disaster. King records in his series 33 such cases, of which 11—i.e., 33 per cent.—died.

Group C.—In six cases bipolar version was the treatment

TABLE GIVING PARTICULARS OF 94 CASES OF PLACENTA PRÆVIA.

GROUP A.—*Cases Treated by Means of the Champetier de Ribes Bag.*

No. of case.	Age.	Previous pregnancies.	Months pregnant.	State of labour and of patient.	History.	Treatment.	Result.	
							Mother.	Child.
1	21	0	7	Os uteri three fingers; pulse 120; pale.	Two or three floodings last 14 days.	Bag inserted alongside placenta; version.	Recovery; normal.	Alive; died in 8 hours.
2	30	4	6	Os uteri half a finger; pulse 120; pale.	Intermittent flooding 2 months.	Ergot 5 days; Hegar's dilators; bag; manual extraction.	Recovery; slight pyrexia.	Alive; died in 24 hours.
3	21	0	9	Os uteri three fingers; pulse 90; good condition.	A flooding 14 days before.	Bag inserted alongside placenta; version.	Recovery; normal.	Alive; did well.
4	36	0	7½	Os uteri one finger; kyphoscoliotic pelvis; good condition.	Flooding a few hours; hydramnios.	Bag; forceps.	,, ,,	Died.
5	40	12	9	Os uteri three fingers; good condition.	Membranes ruptured 48 hours before; cord down.	Bipolar version failed; bag; child transverse; decapitated.	,, ,,	,,
6	33	9	9	Os uteri one finger; good condition; pulse 88.	Bleeding on day that labour began.	Bag inserted through membranes; ergot; forceps.	,, ,,	,,
7	41	7	9	Os uteri one finger; good condition.	Flooding 10 and 4 days before.	Bag; ergot; cord prolapsed; version.	,, ,,	Alive.
8	33	5	8	Os uteri one finger; pulse 120–140; anæmic.	Flooding 1 day.	Bag inserted alongside placenta; version.	,, ,,	Died.
9	36	6	8	Os uteri two fingers; pulse 80; very anæmic.	Flooding 2 months; great flooding recently.	Bag; natural delivery.	,, ,,	Alive.
10	34	8	7	Os uteri two fingers; pulse 90.	Flooding 14 and 2 days before.	Bag inserted through placenta; ergot; delivery.	,, ,,	Died.
11	26	*	9	—	--	Bag.	Recovery with slight sapræmia.	Alive.
12	20	0	8	Os uteri one finger.	Flooding 14 days before.	Bag; cord prolapsed; ergot.	Recovery; albuminuria.	,,
13	35	6	9	Anæmic.	Flooding 3 days.	Bag; prolapse of cord; version.	Recovery; normal.	Died.
14	21	2	7½	Os uteri two fingers; pulse 85.	Flooding a week before.	Bag; ergot.	,, ,,	Alive.
15	32	5	7	Os uteri undilated.	Labour induced for small round pelvis.	Bag; external version.	Recovery.	Alive; died.
16	42	7	8	Os uteri two fingers.	Losing 5 weeks.	Bag inserted in front of placenta; prolapse of cord; forceps.	Recovery; normal.	Alive.
17	30	3	7½	—	Flooding 14 days.	Bag and weight extension; version.	,, ,,	,,
18	29	3	9	Pulse 144.	Labour induced for small pelvis.	Bag; internal version.	,, ,,	,,
19	34	0	6	Os uteri one finger; pulse 120.	Flooding 8 days.	Bag; ergot.	Recovery; with sapræmia.	Died.
20	35	11	7	Os uteri three fingers.	Bleeding 1 day. Last three labours were placentæ prævíæ.	Bag; transverse; dead; decapitation.	Recovery; normal.	Dead.
21	29	3	8	Good condition.	Losing 3 days.	Bag; version.	Recovery with melancholia.	Alive.
22	37	7	8½	Os uteri two fingers; pulse 140; anæmic.	Bleeding 28, 14, and 3 days before.	Bag; version.	Recovery with slight sepsis.	Dead.
23	37	10	8	Os uteri two fingers; pulse 108.	Bleeding at intervals 1 month.	Bag; ergot; version.	Recovery after 6 weeks; parametritis, &c.	,,
24	42	11	9	Os uteri two fingers; blanched.	Flooding 3 months, 1 month, and 3 days before.	Bag through placenta; version; post-partum hæmorrhage.	Recovery; pyrexia 14 days.	Alive.
25	32	2	—	Os uteri two fingers; anæmic.	Hæmorrhage some months.	Bag; external version.	Recovery; slight sapræmia.	Dead.
26	23	0	9	Os uteri one finger; blanched.	Flooding 6 days.	Bag; ergot; forceps.	Recovery; normal.	,,
27	33	12	7	Os uteri one finger; anæmic.	Hæmorrhage 2 days.	Bag; natural delivery.	,, ,,	,,
28	34	0	9	Os uteri two fingers.	Hæmorrhage 4 days.	Bag; forceps.	Recovery and pyrexia 1 week.	Alive.
29	37	6	9	—	Losing 3 months.	Bag; natural delivery.	Recovery; normal.	Dead.
30	37	—	—	Pulse 120.	Twins; first born naturally.	Bag after first child; version.	Recovery and pyrexia 1 week.	Two dead.
31	—	9	7½	—	Hæmorrhage 2 days.	Bag; version.	Recovery after pneumonia.	Dead.
32	28	5	8	Os uteri three fingers.	Three floodings in last week.	Bag; natural delivery.	Recovery and pyrexia 5 days.	,,
33	33	6	8	Os uteri one finger; pulse 120; pale.	Flooding 1 month.	Bag; ergot; manual extraction.	Recovery; normal.	,,
34	33	8	7	—	Hæmorrhage 1 month.	Bag through placenta.	,, ,,	,,
35	22	0	9	Os uteri admits one finger.	Labour began without flooding.	Bag; forceps; post-partum flooding.	Recovery and slight pyrexia.	Alive.

* Several, number not known.

TABLE GIVING PARTICULARS OF 94 CASES OF PLACENTA PRÆVIA—(*Continued*).

GROUP A.—*Cases Treated by Means of the Champetier de Ribes Bag*—(*Continued*).

No. of case.	Age.	Previous pregnancies.	Months pregnant.	State of labour and of patient.	History.	Treatment.	Result. Mother.	Result. Child.
36	30	3	—	—	—	Bag; version.	Recovery; normal.	Alive.
37	30	9	—	—	Great ante-partum flooding.	Bag; forceps.	,, ,,	Dead.
38	36	7	—	—	—	Bag; ergot.	,, ,,	,,
39	40	11	—	—	—	Bag; natural delivery.	,, ,,	,,
40	29	1	—	—	Ante-partum flooding.	Bag; version; post-partum flooding.	,, ,,	,,
				GROUP B.—*Cases Treated by Version or Manual Extraction in Breech Presentations.*				
41	27	4	8	Os uteri admits hand; pulse over 140; pale; collapsed.	Flooding 14 days.	Placenta separated; leg brought down.	Death in three weeks; septicæmia.	Alive.
42	27	—	7	—	—	Leg brought down.	Died suddenly.	Died.
43	44	17	6½	Os uteri one finger; pulse rapid; collapsed.	Flooding two days.	Manual extraction after bringing down leg.	Recovery; normal.	,,
44	35	9	4½	Os uteri two fingers.	—	Fœtus extracted manually.	Recovery; sapræmia.	,,
45	26	3	8	Os uteri crown piece; pulse 150; blanched.	Flooding during labour.	Internal version after failure of forceps.	Recovery; normal.	Alive.
46	39	12	9	—	A flooding at 5 months.	Leg brought down; bad post-partum flooding; atonic uterus.	Died in 4 hours.	Died.
47	28	1	6	Os uteri three fingers; pulse 120; blanched.	Flooding 1 day badly.	Leg brought down.	Recovery; septicæmia.	,,
48	30	5	9	Os fully dilated.	Flooding 14 days.	Version.	Recovery; normal.	Alive.
49	26	1	8½	Os uteri two fingers; anæmic.	Flooding 4 months.	Internal version.	,, ,,	Died.
50	26	—	—	—	Ante-partum hæmorrhage.	Version.	,, ,,	,,
51	24	—	—	Os three-quarters dilated.	Losing 14 days.	,,	,, ,,	Alive.
52	32	8	—	Good condition.	Hæmorrhage few days.	,,	,, ,,	,,
53	28	1	—	Kyphotic pelvis.	—	,,	,, ,,	Died.
54	34	9	—	—	—	Leg brought down.	,, ,,	,,
55	27	3	9	—	—	Version.	,, ,,	Alive.
56	53	4	9	Os uteri two fingers.	Ante-partum flooding.	Os dilated manually; version. Post-partum flooding; atonic uterus.	Death, shortly.	Died.
57	42	12	—	—	Great ante-partum flooding.	Version.	Recovery; normal.	Alive.
58	18	1	8	—	—	Os dilated; version.	,, ,,	Died.
59	24	2	—	—	—	Version.	,, ,,	Alive.
60	36	5	—	—	—	,,	,, ,,	Died.
76	35	—	7	Os fully dilated; pulse 144; collapsed.	Flooding 3 days; twins.	Twins; version.	Died in 13 hours.	2 died.
				GROUP C.—*Cases Treated by Bipolar Version.*				
61	39	5	6	Os uteri three fingers; pulse 120; pale.	Flooding a few hours.	Bipolar version; ergot; later, post-partum flooding.	Recovery; normal.	Died.
62	34	7	7	Os uteri two fingers; pulse 105; pale.	Flooding 3 days.	Bipolar version; ergot.	,, ,,	,,
63	25	3	6	Os uteri one finger; good condition.	,, ,,	,, ,, ,,	,, ,,	,,
64	44	13	7	Os uteri one finger; rapid pulse.	Losing 3 months.	Bipolar version; ergot; post-partum hæmorrhage.	Recovery after hysterectomy 7 weeks later for continued flooding.	Alive.
65	29	2	9	Os uteri two fingers.	Losing 5 weeks.	Bipolar version.	Recovery; normal.	Died.
66	—	9	—	—	Flooding weeks before admission; temperature 101° F.	Bipolar version; rigor next day and diarrhœa; death in 2 days.	Death; septicæmia.	(?)
				GROUP D.—*Cases not Treated or in which only Minor Treatment was used.*				
67	21	1	5	Os uteri two fingers; pulse 90; good condition.	Bleeding 12 hours.	*Nil*; spontaneous delivery.	Recovery; normal.	Dead.
68	34	0	9	Os uteri half dilated; pulse 100; fair condition.	Flooding 24 hours; hydramnios.	Membranes ruptured; forceps.	,, ,,	Alive.
69	37	3	8	Os uteri crown piece; pulse 140; anæmic.	Flooding 6 weeks.	Membranes ruptured.	,, ,,	,,
70	29	9	5½	—	Irregular losing.	Ergot; membranes ruptured.	,, ,,	Dead.
71	25	2	8	Os uteri one finger.	Flooding 6 weeks.	,,	Recovery and bronchitis.	Alive.

TABLE GIVING PARTICULARS OF 94 CASES OF PLACENTA PRÆVIA—(*Continued*).

GROUP D.—*Cases not Treated or in which only Minor Treatment was used—(Continued).*

No. of case.	Age.	Previous pregnancies.	Months pregnant.	State of labour and of patient.	History.	Treatment.	Result. Mother.		Result. Child.
72	32	4	7	Os uteri one finger.	—	Ergot; membranes ruptured; forceps.	Recovery; normal.		Dead.
73	22	0	7	Os uteri less than one finger.	Flooding a few hours.	Ergot; membranes ruptured.	Recovery and pyrexia.		Alive.
74	29	8	8	Os uteri two fingers.	Flooding 10 days.	Ergot; fœtus born in membranes.	Recovery; normal.		Dead.
75	29	3	7	Os uteri two fingers.	Flooding 3 days.	Natural delivery.	,,	,,	Alive.
77	30	3	—	—	Prolapsed cord.	Placenta, cord and face born together.	,,	,,	Dead.
78	44	9	—	—	—	*Nil*; some post-partum flooding.	,,	,,	Alive.
79	—	4	—	—	Ante-partum flooding.	Ergot.	,,	,,	,,
80	33	4	—	—	—	—	,,	,,	,,
81	23	1	—	—	—	—	,,	,,	,,
82	42	10	—	—	—	—	,,	,,	,,
85	35	5	—	—	—	*Nil*; some post-partum flooding.	,,	,,	,,
84	30	8	—	—	—	—	,,	,,	,,
85	24	3	—	—	—	—	,,	,,	,,
86	29	8	—	Placenta, cord, and foot presenting.	Flooding 24 hours	—	,,	,,	Dead.
87	39	10	—	—	Lost 2 pints.	—	,,	,,	Alive.
88	24	2	—	—	Flooding 2 days.	—	,,	,,	,,
89	24	—	—	—	Slight flooding.	—	,,	,,	,,
90	34	4	—	—	—	—	,,	,,	,,
91	37	6	—	—	—	Slight post partum flooding.	,,	,,	,,
92	23	2	—	—	—	—	,,	,,	,,
93	27	2	—	—	—	Considerable post-partum flooding.	,,	,,	,,
94	35	4	—	—	—	—	,,	,,	,,

adopted. In two cases the placenta was central. The condition of three cases was grave. The flooding was checked by the treatment. There were two cases of post-partum hæmorrhage—one, an alcoholic, was pulled out of bed by her inebriated friends shortly after delivery; the other was a curious case of recurrent severe metrorrhagia persisting for seven weeks and only cured by hysterectomy, no cause for the bleeding being found. One case died the day after delivery, apparently from septicæmia contracted before treatment was undertaken, so this death can hardly be set down to any failure in the method used.

Group B.—21 cases were treated by internal version or manual delivery in the case of pelvic presentations. Of the 21 mothers five died, and of the 22 children 14 died. This series shows a mortality almost equal to the worst results of 100 years ago; there are several factors to account for this. In five cases the placenta was inserted centrally. Nine of the patients were in a very precarious condition when first seen. In five cases the os was considerably dilated and probably the patients had been flooding for some time. This group, then, contains an exceptional number of severe cases. Four cases died soon after delivery, in from four to 13 hours, two of them as the result of collapse from the ante partum hæmorrhage—one of which was a twin labour moribund from the first. The other two succumbed to post-partum hæmorrhage with atony of the uterus. Two cases suffered from septicæmia and one from sapræmia; one of the former died at the end of three weeks—this case had been with some difficulty saved from succumbing to ante-partum hæmorrhage. In this group there were six pelvic presentations, of which three mothers and four infants died; 14 cases of internal version, of which one mother and seven infants died; and one case of version in twins, of which the mother and both infants died. The mortality of version is not so high, then, as appeared at first glance and gives fair results in suitable cases. The cases, however, in which version is indicated are frequently severe, since considerable dilatation of the os must be present to make internal version a fair proceeding, and the mortality will naturally be higher than that found with methods which can be used at an earlier stage of labour.

Group A.—40 cases were treated by the insertion of the de Ribes bag. None of the mothers died. 25 of the infants died. In eight cases the placenta was central. Ten cases were severe. In none of the cases did the os uteri admit more than three fingers, or, in other words, treatment was used at a comparatively early stage in all these cases. It will be noted that the proportion of central placentæ previæ is the same in this as in Group C, but the proportion of severe cases is considerably less in the present series. It seems reasonable to suppose that the early adoption of treatment which controlled the hæmorrhage kept down the number of severe cases. The bag once introduced never failed to control the flooding and to induce labour, though the latter was at times a lengthy matter. In the 32 cases in which the time is given the bag was expelled as follows: in from 20 minutes to 5 hours, 14 cases; in from 6 to 12 hours, 8 cases; in from 12 to 24 hours, 5 cases; and in from 24 to 36 hours, 5 cases. It has been objected that the prolonged sojourn of this instrument in the uterus makes for sepsis. There is some truth in this; of the 40 cases, 4 had a slight rise in temperature on the third to the fifth day, 7 suffered from slight sepsis or sapræmia, 1 developed bronchitis, pleurisy, and parametritis lasting six weeks, and 1 had pneumonia. That is to say, only two cases had any septic trouble beyond the slightest and no case died. It does seem, however, that a slight degree of sepsis or sapræmia was rather more common after the use of the bag than in the other cases.

Another objection made is that filling up the bag may separate the placenta more and so increase the hæmorrhage. This cannot occur if the bag be inserted through a hole in the placenta or membranes and does not occur if the bag be pushed between the placenta and uterus, since any bleeding point exposed by stripping the placenta is at once pressed on by the expanding bag and the hæmorrhage is thus controlled. The bag may displace the presenting part, and the cord or an

extremity may prolapse. Prolapse of the cord would appear to be more common after the use of the bag than in ordinary cases of placenta prævia: it occurred four times in the 40 cases in which the bag was used but only three times out of the 54 other cases. In two cases a vertex was changed into a transverse presentation. The hand in one case prolapsed and of two other cases a breech was changed to a vertex and *vice versâ*. Such a change of position of the fœtus or prolapse of cord or extremity is of little practical moment, since internal version can be performed as soon as the bag is expelled and is usually the easiest and safest method of delivery, especially if flooding recurs after the bag is delivered. The treatment after delivery of the bag was: 16 cases, internal version; seven cases, forceps; two cases, decapitation; two cases, external version; and ten cases, natural delivery.

As to inserting the bag, the question arises whether it should be pushed through the placenta or up alongside the placenta between the latter and the uterus or through a hole in the membranes. In a case of complete placenta prævia it may be impossible to separate the placenta far enough up to reach the membranes, and, again, in the absence of pains, rendering the ovum tense, it may be difficult to penetrate the placenta in order to insert the bag through it. It is noted that in three cases the bag was passed through the placenta, in six cases through the membranes, and in eight cases between the placenta and uterus; the results were equally good with each method, hæmorrhage being controlled. It might be thought that inserting the bag without rupturing the membranes or perforating the placenta and thus draining off the waters would raise the intra-uterine tension to such an extent as to risk a rupture of the uterus. This did not occur, nor could I find any such case recorded; moreover, it is very easy whilst filling up the bag to feel the latter as it swells, with a hand on the abdomen, and so judge of the tension of the uterus and bag. It has been supposed that the pressure of the bag on the placenta by diminishing the supply of oxygen to the fœtus would increase the fœtal mortality. The mortality of this group is about 62 per cent., which is about the same as Charpentier gives for over 2000 cases; it is higher than the general fœtal mortality for the whole collection and does not show one of the minor advantages of the bag—namely, a reduction in the fœtal mortality, as I will show later to be the case in a larger collection from various writers.

The advantages from the use of the de Ribes bag are: 1. Ease of introduction; it is certainly easier to introduce a bag than to perform bipolar version, the only other general method useful in severe cases. 2. Efficient means of treatment can be used at an earlier stage of labour than by any other method; dilatation of the cervix is seldom needed; in only one of these 40 cases was this necessary. A bag can be inserted through an os that admits little more than one finger; while for bipolar version the os should admit two fingers comfortably. 3. Arrest of hæmorrhage is certain; gentle traction on the stalk of the bag will suffice to check any bleeding, or slight weight extension from two to four pounds may be used if the bag has to remain in a long time and pains do not come on. 4. Uterine contraction is stimulated. 5. Little discomfort is caused and there is no risk of sloughing such as may occur from the use of a tampon in the vagina.

Results obtained by various methods of treatment.—I have collected from various authors 249 cases of placenta prævia treated by means of the de Ribes bag which show the following results: 249 mothers, 8 died, i.e., 3·2 per cent.; 222 infants, 68 died, i.e., 31 per cent.—the best result of any large number of cases both for mothers and infants. The results of various authors by bipolar version are: 420 mothers, 26 deaths, i.e., 6·1 per cent.; 256 infants, 61 per cent. Separation of the placenta from the lower zone of the uterus has given good results: thus Murphy had a series of 29, of which no mothers died. This method, although physiological, cannot be relied on for general application, since in the absence of pains there is no reason why separating the placenta should stop hæmorrhage; on the contrary, there is a great danger of the hæmorrhage being made worse. Separation of the placenta is generally done whilst performing bipolar version or inserting a bag and in combination with a trustworthy method of controlling hæmorrhage is useful.

Of results obtained by a tampon in the vagina Auvard gives the following figures: 258 cases, 73 mothers and 100 infants died. As many of these date from pre-antiseptic days it is perhaps hardly fair to compare them with modern results. But supposing half of the deaths to have been from septic complications—a very liberal estimate—the deaths from hæmorrhage would still amount to 15 per cent. Moreover, Auvard, an advocate of the tampon, found that hæmorrhage was not controlled in one-third of the cases; also extreme pain, to say nothing of sloughing, had been brought about by this method.

Of recent years Cæsarean section has been proposed as the treatment of placenta prævia. Tait published a successful case in 1899 and later Conroy and Donoghue have each saved a patient. But in spite of these brilliant results, redounding no less to the skill of the surgeons than to the stamina of the patients, the mortality with this treatment is very high. Out of ten cases which are reported five died; accouchement forcé was not more deadly. Certainly the death-rate for Cæsarean section has been reduced in selected cases to near zero. But a patient who has just had a big flooding will seldom be an inviting subject for Cæsarean section. The matter is well summed up by Palmer, who advocates Cæsarean section only in cases where the os is undilated (I would rather say undilatable) or hæmorrhage is uncontrollable, the child is alive and at term, the temperature of the patient is normal, the patient is not greatly reduced by loss of blood, and the environment is suitable: a combination of events likely to prove extremely rare. There are two obvious fallacies in the arguments of those who advocate Cæsarean section as an "ideal treatment" for placenta prævia. First, they imagine the mortality of placenta prævia to be far higher than it is; thus the figures given by Simpson are 29 per cent. Tait magnified this to 40 per cent. and believed that it was really 50 per cent., whereas under suitable treatment it is under 10 per cent. In the second place they think that the first end in view is the rapid emptying of the uterus; this should, however, only be the final objective, the immediate aim being to control hæmorrhage by pressure on the bleeding points.

CONCLUSIONS.

The line of treatment to be pursued in these cases is that which surely arrests hæmorrhage at the earliest possible moment; the only certain means of doing this is by pressure on the bleeding points. The progress and completion of labour, though they may assist in stopping hæmorrhage and ultimately do stop it, are secondary matters. Primary treatment is not directly concerned in hurrying on labour except in the slighter cases, although the methods employed do so incidentally. In a fair number of lateral and marginal, very rarely in central, implantation the flooding may be quite trifling and no treatment will be needed beyond the slightest. It must, however, always be borne in mind that a placenta implanted on the lower segment, though not causing flooding, may quite suddenly and unexpectedly do so, especially if the placenta becomes partially separated and labour pains cease. King, indeed, found that the apparently slight cases had a greater mortality than those more severe, presumably because in these cases the medical attendants were less on their guard. It is therefore important, even in apparently trivial cases, to watch carefully, or, if from lack of time this should be impossible, to take measures so that flooding cannot occur. Early diagnosis is essential for efficient treatment. A certain number of cases are only seen when the patient is so drained of blood that recovery is wellnigh impossible.

It is necessary, therefore, in cases of ante-partum hæmorrhage, in which the os will not admit a finger, to ascertain by bimanual and abdominal examination whether or not the placenta be implanted on the lower segment, since these cases can almost certainly be saved if treatment be undertaken early. Labour, if not in progress, should be induced immediately, since completion of labour is the ultimate cure. Should the os not admit a bag or performing bipolar version it must be dilated till one of these modes of treatment can be adopted. Such a preliminary manœuvre is seldom necessary. In the only case of this nature, No. 2, after dilating to 22 Hegar, the bag could be inserted. Sponge tents have been used with success by Jungbluth and are well spoken of by Barnes and Spiegelberg. Palmer advocates plugging the cervix with gauze for this purpose. Manual dilatation has its advocates. Case 56 shows this method may end in disaster. When the os is of suitable size a bag is inserted or bipolar version is performed, the choice lying with the bag if one be to hand, since it can be introduced through a smaller cervix and the technique is somewhat easier. Immediate

treatment is now complete since slight traction on the stalk of the bag or on the leg of the fœtus effectively stays further hæmorrhage by causing an inverted cone to press on the lower uterine segment; delivery can now be awaited with equanimity, the strength of the patient being supported as much as is necessary. It matters little whether the bag be pushed through the placenta or membranes or between the uterus and placenta. Ergot was given in several cases with no bad result. In a case with a very rigid cervix ergot might possibly do harm in the first stage of labour by tiring out the uterus in overcoming the resistant cervix and so lead to atony and post-partum hæmorrhage later; for this reason ergot was not given early in Case 2. Moreover, tension on the stalk of the bag is enough to put a stop to flooding. After the bag is delivered, unless the head or breech is driven down by strong pains, internal version is the best course, since flooding occurred in several cases after the bag was expelled. In these cases the insertion of the arm for version acts as a plug till the fœtus is turned and can in its turn act as a plug. The alternative of applying the forceps may be rendered difficult by the distance the head is up and by the placenta baulking the operator. Although nothing untoward happened in the seven cases thus dealt with in this collection yet the forceps is of bad repute in the treatment of placenta prævia, for King mentions ten cases with a mortality of 30 per cent. and Auvard 21 cases in which the forceps was used at the "moment of election" with a mortality of 45 per cent.

If the os be considerably dilated when the case is first seen internal version or bringing down a leg in pelvic presentations seems to be the indication; inserting a bag would only increase the amount of manipulation without corresponding advantage. As has been already pointed out, the high mortality of cases suitable for this plan of treatment is due to the fact that so many of them are in a very dangerous condition when first seen. Having met the first indication—namely, checking the hæmorrhage—the next point is to keep up the patient's strength. In severe cases the quickest method is by auto-transfusion, or, in other words, raising the foot of the bed on chairs. Next in rapidity of action is intravenous infusion of saline solution. The latter, though a simple proceeding in a hospital or decent house, where some assistance and clean water can be obtained, may yet in the hovels of the poor prove a very different matter; the water may be so full of extraneous matter as to block completely fine tubes and cannulæ. It is here that normal saline solution given per rectum is of the greatest service; it is rapidly absorbed and can be quickly given with a Higginson's syringe. The rectum of freshly delivered women is surprisingly enduring of liquid refreshment. From four to six pints can be given in this way in from one to two hours without any discomfort or return. The weak point about this method is that it cannot be used till labour is complete, whereas intravenous or subcutaneous infusion can be used as soon as hæmorrhage is controlled. With regard to the third stage of labour, it is well to remember the comparative frequence of adherence of a placenta prævia, and consequently there is reason to remove the placenta manually more often than in normal cases.

CASE A.

Recorded for the difficulty in diagnosis; probable rupture of varicose veins of the vagina; gross hæmorrhage; plugging; recovery.—An English multipara with a badly ruptured perineum and slightly contracted pelvis was advised to have labour induced at eight and a half months. There were very large varicose veins of the legs extending on to the vulva and up the vagina. The patient was on an inclinable table and I had just got so far as to begin inserting a bougie for the purpose of inducing labour when the patient strained two or three times. In a moment there came a gush of hæmorrhage as if a large jug had been upset. Swabbing away blood to look for a bleeding point was out of the question. A clenched fist thrust into the vagina and raising the pelvis also failed. Owing to the ruptured perineum blood poured out all round. The patient was already blanched and nearly pulseless. I hurriedly rolled a sterilised towel into a ball and pushed it up the vagina, the flooding ceased, though how much from the plug and how much from loss of blood is difficult to say. Not having much confidence in the plugging and thinking it possible that passing the bougie might have detached a portion of a low-lying placenta I thought it advisable to make pressure on any bleeding point which there might be from the upper end of the lower uterine segment down to the vulva. I therefore, having removed the towel quickly, inserted a de Ribes bag, the os being sufficiently patulous. Having filled the bag with water, I then stuffed the vagina with gauze, at the same time pulling down the bag and so exerting firm pressure on the whole lower part of the uterus and vagina. There was no further sign of hæmorrhage. Although the whole episode had not taken more than ten minutes the patient seemed to be on the point of dying from acute anæmia. Five pints of intravenous saline infusion, however, made her rally and in 12 hours she was delivered of bag, plug, and dead child without further bleeding. She made a symptomless recovery. The exact source of bleeding remained undiscovered.

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SOME POINTS IN THE TREATMENT OF HEART FAILURE IN DIPHTHERIA.[1]

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THE successful treatment of heart failure in diphtheria depends upon a knowledge of the various clinical forms of this condition, of the different periods during the disease when it may be expected to occur, and of the chief circumstances influencing its onset. These points are all quite easily grasped when the essential facts in the pathology of the disease are thoroughly understood. I will therefore, in the first place, take the opportunity of reminding you of these facts. In former times the treatment of diphtheria was directed solely against the local lesion but the recent study of the pathology of this disease has shown that its fatal character is dependent not upon the local lesion but upon the systemic intoxication which results from the absorption of certain poisons and that this poisoning cannot be prevented by any means directed against the local lesion. The latter is only of itself directly dangerous to life when it mechanically obstructs the larynx. The diphtheritic poison has a selective action and especially

[1] A paper read before the Windsor and District Medical Society on Dec. 20th, 1905.

attacks nervous and muscular tissues. In the acute stage of diphtheritic toxæmia acute degenerative changes occur in certain cells of the central nervous system and amongst these cells the nucleus of the vagus is affected and extensive fatty degeneration occurs in the muscular fibres of the heart. It is thus that acute diphtheritic poisoning proves fatal, the patient dying from a primary progressive failure of the heart as the result of acute degenerative changes in the neuro-muscular mechanism of that organ. At a later stage of the disease, if the patient survives, the poison attacks the peripheral nerves and voluntary muscles; a primary parenchymatous degeneration occurs in the nerve and fatty degeneration in the muscle. The vagus nerve may be attacked along with other nerves and an infiltration of round cells may occur in the intermuscular substance of the heart. The conditions which we have to treat are therefore of a degenerative nature and they are, moreover, *acutely* produced, which renders them considerably more fatal than chronic changes of a similar nature. It must also be remembered that not only is the muscular power of the heart affected but that its regulative mechanism is also interfered with. A fact of the greatest importance in treatment is that the degenerative changes in the heart found in the *acute* stage of the disease, if a fatal dose of poison has been absorbed, are of themselves capable of bringing about a primary failure of the heart and death, but that the changes found in the *later* stages of the disease do not lead to death except through the interposition of some strain which the heart is unprepared to meet. The majority of patients, if they survive the acute stage, show some signs of heart failure either in the direction of irregular action or dilatation of that organ. Pathological investigation has further led to the discovery of a specific antitoxin to the diphtheritic poison and thus the treatment of heart failure in diphtheria would seem to be reduced to the simple measure of giving a sufficient dose of antitoxin; but although this is indeed the fundamental principle to be adopted yet it will be seen by a study of the various circumstances in which heart failure occurs that certain auxiliary measures may be adopted, and are indeed necessary, since it is comparatively rare that a sufficient dose of antitoxin has been given before degenerative changes have already occurred in the heart.

I shall first direct your attention to two most important points in the administration of antitoxin. The first point is that it is absolutely necessary to administer antitoxin at the earliest possible moment, since this is a means not of *treating* heart failure but of *preventing* the occurrence of changes which lead to it, and that the earlier antitoxin is given the less chance is there of heart failure subsequently supervening. The administration of antitoxin leads directly to the neutralisation of the toxin. If a fatal dose of diphtheria toxin is mixed in the test tube with sufficient antitoxin to neutralise it and the mixture is then injected into an animal no symptoms result. If less than this amount of antitoxin is used the resulting symptoms are proportional to the amount of toxin unneutralised; in such a case no acute symptoms may supervene but the animal may become subsequently paralysed. The same result is seen even if an additional amount of antitoxin is immediately injected. If the toxin is injected intravenously and if after a few minutes the antitoxin is injected the animal will die unless a very large dose of antitoxin is used. If a longer interval is allowed to elapse the animal cannot be saved. The toxin becomes very rapidly combined with the particular tissue affected by it and is then only neutralised with great difficulty by the antitoxin; after it has produced its effects on the tissues it cannot be neutralised. In human diphtheria the toxin is not suddenly poured into the blood as in an experiment but is formed slowly and therefore it is possible to neutralise it by large doses of antitoxin; it should, however, be borne in mind that extensive fatty degeneration of the heart may be found in three days. From experiment we therefore learn that if antitoxin is to be of any service it must be given at the earliest possible moment. Clinical observation also bears out this point. The statistics of the Chicago health department show that of cases first treated by antitoxin on the first day of the disease the mortality is 0·42 per cent., of those first treated on the second day 1·54 per cent., on the third day 3·59 per cent., on the fourth day 11·38 per cent., and later than the fourth day over 23 per cent. Other statistics are in entire agreement with these, only varying a little in the figures. These statistics include cases dying from laryngeal obstruction and also complications, but the vast majority died from heart failure and therefore the immense importance of the early administration of antitoxin in preventing this is strikingly manifest. In making a prognosis also in a case of diphtheria, one of the first points to be considered is the day on which antitoxin was *first* administered. I say *first* administered, because a subsequent dose is undoubtedly useful in some cases in which the membrane has shown no signs of separating or goes on increasing in extent. It should be an invariable rule that immediately diphtheria is suspected in a patient and without waiting for a bacteriological examination, antitoxin should be at once administered as soon as it can be procured. This should be done however slight the case appears to be, because although the severity of the local lesion is, speaking generally, a measure of the severity of the systemic poisoning, an apparently mild case may be followed by marked symptoms. We have no idea of the individual susceptibility of the patient to the disease, neither have we any idea of the number and virulence of the bacilli present.

The second point with regard to the administration of antitoxin to which I wish to refer is that it should be given in large doses. I have already mentioned that if antitoxin is given subsequently to toxin experimentally a much larger dose is needed to prevent acute symptoms and death than if the two are mixed together before injection; and moreover, Ehrlich has demonstrated by partial neutralisation of toxin by antitoxin that the latter is much more efficient in averting death in the acute stage than in preventing the subsequent paralysis. Here again clinical observation is in entire agreement with experiment on these two points and it is found that the mortality is lower when large doses of antitoxin are used and also that to modify the subsequent paralysis large doses are necessary. Fixing the dose of antitoxin is difficult but most authorities agree that 4000 to 6000 units should be the minimum dose for an ordinary case. In the severe cases when larger doses are necessary the question arises whether 4000 units should be given at once and repeated at short intervals until, say, 12,000 or 24,000 units or even more have been injected, or whether the larger dose should be given at once. Personally I cannot see the advantage of small and repeated doses over a massive dose. I think that in a severe case of diphtheria 12,000 to 24,000 units should be given at once and if on the next day there is no improvement in the nasal discharge or separation of the membrane, or if the membrane has extended, the injection should be repeated. In the worst cases some clinicians inject up to 30,000 units at once and repeat the injection in 24 or 48 hours. There is no danger in the antitoxin and the complications that are liable to ensue such as rashes, joint pains, and so forth, are not much more likely to follow large injections than smaller ones. Besides the severity of the case as a guide to the dosage of antitoxin, the time at which it comes under treatment is of importance, a larger dose being necessary on the third or fourth day than is necessary on the first or second day. Time may be also saved if the case is seen late by injecting the antitoxin intravenously. In all other cases subcutaneous injection should be employed, as antitoxin is practically not absorbed at all by the stomach or rectum. The dose is the same for children as for adults.

The point next in importance to the early administration of antitoxin is *rest* both physical and mental. By the term "rest" I mean the avoidance of all causes likely to throw any strain upon the degenerate heart. In the treatment of heart failure due to any cause whatever rest is an important factor because in these circumstances the heart has a diminished amount of work presented to it, but in the treatment of heart failure in diphtheria apart from the administration of antitoxin rest is *the* important factor and in the majority of cases it is the only one of any use whatever. In the acute stage of the disease when the heart is failing sudden death may occur at any time as the result of the strain of vomiting or jumping up suddenly in bed. If the acute stage is survived and the patient left with signs of heart failure due to changes not in themselves sufficient to kill him strain may again determine sudden death. On the other hand, if he have no signs whatever of heart failure the strain of getting up too early in the progress of the disease often initiates it, thus bringing into evidence the latent heart weakness. Causes leading to heart failure in the later stages of the disease are mental excitement or shock, sudden exertion, vomiting, and respiratory paralysis. The point which I wish to emphasise here is that in the vast majority of cases after the first three weeks of the disease have

passed death from heart failure will only occur as the result of some complication or strain and that therefore we have at hand a ready means of obviating this to a large extent.

From the foregoing remarks it would appear that rest is a more powerful therapeutic agent after the acute stage has passed than when it is present, because patients are naturally always kept in bed during this stage of the disease and heart failure leading to death at this time occurs independently of any external circumstances. And it is a fact that the key to the successful treatment of heart failure in diphtheria is antitoxin to prevent death in the acute stage and rest to prevent death in the later stage, after antitoxin has done what it is able to prevent cardiac degeneration. There are, however, borderland cases in which the presence or absence of strain in the acute stage may mean the death or recovery of the patient. Every case, therefore, however mild it may appear, is to be strictly confined to bed during the period of acute symptoms. A careful watch must be kept upon the heart and pulse and since the latter varies from hour to hour when heart failure has commenced it must be frequently examined during the day and if possible during the night, or else if only casually examined at the morning visit it might appear to be quite normal. In fatal cases the first signs of heart failure commence usually about the end of the first week, in some cases earlier than this, and death occurs with great regularity usually within the first 14 days. The signs to be observed are irregularity and weakness of the pulse, together with undue rapidity or slowing. A slow irregular pulse is of bad prognostic significance. The first sound of the heart is short and feeble, the pulmonary second sound accentuated, and the impulse may be diffuse and slapping. When these signs are present the patient should be kept lying with the head low and disturbed as little as possible. Great care should be exercised in syringing or making applications to the throat, as it is a common report from the nurse that the patient became "very collapsed" after syringing; in such a case as this very active treatment should be discontinued or there will be a danger of sudden syncope. Another danger lies in the strain produced by vomiting. Every medical officer who has had charge of diphtheria wards must have been an eye-witness to cases of sudden death resulting from vomiting. The first case I saw die suddenly was that of a little girl in the diphtheria ward of the old University College Hospital. She was suffering from heart failure during the acute stage and showed no symptoms whatever except a gradual failure of the heart that was progressively advancing. On the thirteenth day of the disease she asked for a little jelly which was given her by the ward sister whilst I was standing by; immediately after swallowing the nourishment she raised herself up to vomit and fell back in a faint; after three or four gasps at intervals she was dead. Great care must therefore be exercised in the giving of nourishment and medicines lest vomiting be excited; medicines as a rule are useless and should rarely be given in the acute stage of diphtheria. The early vomiting in diphtheria is usually independent of food and in my opinion the evidence is largely in favour of its being central in origin; it is extremely difficult to control and rectal feeding should be resorted to, drugs apparently having no beneficial effect on it whatever.

Dr. G. C. Garratt, late of the London Fever Hospital, is greatly in favour of washing out the stomach repeatedly. He claims success by this method combined with the administration of belladonna but it has not yet been sufficiently tried for an opinion to be definitely stated as to its value. I should think it would not be always a simple matter and might entail the risk of syncope, as many children would struggle considerably.

The next point which arises in relation to the question of rest is, How long should a case of diphtheria be kept in bed? We have seen that in fatal cases the heart symptoms commence about the end of the first week or even earlier, and that death usually occurs during the first 14 days of the disease and exceptionally a day or two later than this. In the case of patients who do not die directly from the toxæmia the majority show some signs of heart failure, but these commence rather later than in fatal cases. They commonly begin about the end of the second or during the third week of the disease, although in some cases they may appear at the end of the first week. In these cases when heart signs have supervened prolonged rest in bed is necessary. The general rule, which must be always adhered to, should be that, however mild the case appears to be, the patient should be kept in bed for three weeks from the onset of the disease, and this is all the more necessary since the throat may have been clear of membrane for a day or two before the heart symptoms, which will lead to a fatal issue, appear. If at the end of three weeks no irregularity of the pulse or signs of dilatation of the heart have appeared the patient may be allowed to sit up for an hour or two on a couch during the day and each day the time of sitting up may be lengthened until the patient is at the end of a week able to walk. All this time the pulse and heart must be carefully watched, because often the effort of getting up is sufficient to bring into evidence a latent weakness of the heart which caused no signs so long as the patient was lying in bed. If any signs of heart failure are brought into evidence by the exertion of getting up the patient must immediately be put back to bed again and remain there until the signs have disappeared.

If the patient has survived the first 14 days and is left with an irregular pulse and probably with his cardiac impulse outside the nipple and a systolic apical murmur audible the question arises, How long is it to be expected that these signs will last? Although, of course, it is impossible correctly to answer this question yet we are not altogether without knowledge on this point. The period during which the pulse remains irregular varies within considerable limits; in the mildest cases it may be only ten days or a fortnight and in the most severe four or five months. I have recently seen two patients who were suffering from heart symptoms following diphtheria. One of them, a child, aged four years, had suffered from diphtheria five months previously and the mother complained that if he got excited or ran about he became blue and short of breath; the pulse was 132 in frequency and quite regular; the cardiac impulse was just outside the nipple in the fifth left intercostal space and the first sound was short. The other case was that of a boy, aged 11 years, who had fainted twice within six months. He had suffered from diphtheria four years previously and at the time of examination the pulse was irregular and intermittent, the heart showing no signs of dilatation. This case shows that at very late periods following the disease a latent weakness of the heart may be brought out as the result of strain. The more degeneration there is produced in the heart the longer will the signs last; therefore in all severe cases showing heart failure the patient and his friends must be warned that prolonged rest in bed will be necessary, possibly for more than eight weeks. I say more than eight weeks, because cases have been recorded of sudden death occurring when the patient has been allowed to get up after being kept in bed two months. I have never heard of death occurring suddenly after the third month, therefore, if at this time the signs still persist, the patient may be allowed to sit up and gradually regain his old habits. The general rule would then be that as long as the pulse remains irregular the patient should be strictly confined to bed but that after the third month, although the irregularity may not have quite disappeared, strict confinement to bed is not absolutely necessary. All signs of dilatation of the heart may have long disappeared before the pulse regains its regularity. It is not always an easy thing to persuade the patient that confinement to bed is necessary, because he has absolutely none of the usual symptoms accompanying a heart lesion, such as dyspnœa and so forth, and therefore will not believe that there is any danger. I have known such a patient receive a wholesome warning in the shape of a fainting attack when he attempted to disobey orders. Besides confinement to bed, sitting up and playing with toys must be forbidden in the earlier stages, the bowels must be made to act easily, the diet should be plain and nourishing, and it is all the better for most patients if the friends can be excluded.

Paralysis may come on whilst the pulse is irregular but it does not affect the prognosis or treatment materially unless the respiratory muscles are paralysed or vomiting commences. The normal effect of inspiration on the circulation of the blood is to aspirate blood into the heart from the extra-thoracic veins and thus aid in the diastolic filling of the right heart; at the same time the circulation through the pulmonary capillaries is rendered more free and hence more blood flows to the left side of the heart and the circulation is thus materially aided. If the respiratory muscles are paralysed the movements are slower and more imperfect and thus an obstacle is opposed to the diastolic filling of both right and left sides of the heart; at the same time this effect

is increased by the tendency of mucus to collect in the bronchial tubes and so prevent free entry of air and free expansion of the lung. Pneumonia may also be present as a complication. A strain is thus thrown upon the heart and at the same time it suffers from partial asphyxia owing to deficient oxygenation of the blood. It follows from this that a heart which was not sufficiently degenerated *primarily* to cause death may *secondarily* do so owing to the extra stress put upon it by respiratory paralysis. Unfortunately, very little can be done for this condition, but one point which should not be forgotten is to raise the foot of the bed so that gravity will assist in draining the lungs and at the same time in keeping the mouth free from saliva which collects when the pharyngeal muscles are paralysed and adds an extra danger by flowing into the larynx and causing asphyxial attacks. Vomiting in association with paralysis acts as a strain to the heart, as in the acute stage of the disease, and may lead to death from heart failure. The best treatment for this is to stop all food by the mouth and to feed per rectum or subcutaneously. Drugs are practically useless in this condition. In addition to paralysis coming on during the course of heart failure the latter may first appear just preceding the paralysis, especially when such paralysis has an early onset, or it may first appear during the course of paralysis. When paralysis comes on before the acute stage is ended it is naturally associated with an irregular pulse, as the latter is so common at this stage. When the heart failure first appears during paralysis, occurring at a late stage of the disease, it is the result of a latent weakness of the heart brought into evidence by the paralysis as shown above, or it is due to degeneration of the vagus occurring as a part of extensive nerve degeneration. Whether isolated degeneration of the vagus occurs has not yet been proved.

I come next to the question of the use of cardiac stimulants and tonics. Our knowledge of the exact mode of action of these drugs upon the vascular system is still imperfect, but it is sufficiently definite to guide us in the selection of particular drugs the pharmacological actions of which meet the requirements of different classes of cases of heart failure. At the outset I may remark that the utility of such drugs in treating heart failure in diphtheria is not very great and some of them are contra-indicated. The action of the majority of the heart poisons with which we are familiar is directed not only towards the heart itself but also towards the inhibitory apparatus of that organ and the toxin of diphtheria is no exception to this rule. Not only, as I mentioned above, is there to be found post mortem in patients dead from diphtheria extensive degeneration of the heart muscle, but also degeneration in certain nerve cells in the medulla. This degeneration is especially marked in the motor nucleus of the vagus about the region where Laborde located the vagus centre in the cat by the needle method of excitation. Clinically, we have evidence that the vagus centre is excited in the attacks of slowing with irregularity of the pulse which are so common in the earlier stages of diphtheria. A slow irregular pulse is one of the most fatal signs in the acute toxic stage of this disease. We have seen the dangers of presenting any extra work to the weakened heart and therefore all drugs which raise the blood pressure by excitation of the vaso-motor centre or by a direct action on the arterioles are contra-indicated and all drugs are likewise to be prohibited which act upon the inhibitory apparatus of the heart. This is precisely the action of the group of drugs of which digitalis is a member. In therapeutic doses digitalis slows the heart by stimulation of the inhibitory apparatus and the ventricles more completely empty themselves and contract to a smaller size by a direct action of the drug upon the cardiac muscle. With poisonous doses the inhibitory action may be more prominent, the rhythm of the heart being very slow and irregular and the ventricle dilating more completely in diastole; this inhibitory action may entirely conceal the muscular action. At a later stage, owing to increased irritability, the heart becomes rapid and passes into delirium. The blood pressure is raised by constriction of the arterioles by a direct action of the drug on the muscular walls of those vessels and probably also by its action upon the vaso-motor centre in the medulla. Whether digitalis invariably causes a rise in the blood pressure seems to be a doubtful point, because in the course of some clinical observations upon the blood pressure in cardiac dropsy I have found the height of the pressure to be unaffected by the administration of this drug, although the heart was slowed and the dropsy disappeared. *Theoretically*, the employment of the digitalis group of drugs is thus contra-indicated in the early stages of diphtheria when the pulse is slow. Strychnine, which has been employed, is also contra-indicated at this stage because it acts upon the nervous system, slows the heart by vagus inhibition, and raises the blood pressure by vaso motor constriction. *Practically*, I have never known a case to be saved by the use of these drugs and I know of no statistics proving that the mortality of the disease is lowered by their employment. This objection does not hold in the case of the cardiac stimulants which are considered to increase reflexly the force and frequency of the pulse and some of which cause vaso dilatation. Alcohol, ether, or camphor are examples of such drugs, but it is extremely doubtful if their employment is of any value whatever in the early stages of diphtheria. It is becoming more and more recognised that the action of alcohol on the heart is in the direction of lessened efficiency. If the patient has received a fatal dose of toxin, antitoxin if given early will save him by preventing cardiac degeneration, but no amount of cardiac stimulation will do any good whatever if antitoxin fails. Cardiac stimulants are therefore chiefly of use in the later stages of the disease when the weakened heart gives way before some strain, leading to a gradual failure or sudden syncope. A paralysed patient at a late stage of the disease who is cold and almost pulseless as the result of vomiting may be benefited by cardiac stimulation, but such a condition in the first fortnight of the disease leads inevitably to a fatal termination in my experience. I have found the application of heat and counter irritation to the præcordium to be valuable adjuncts to the cardiac stimulation in the later stage of the disease.

In conclusion, I should like to mention a drug which has not yet received a fair trial in the treatment of heart failure in diphtheria. This drug is belladonna. Of course, it is a very difficult matter to test the efficacy of a drug in such a condition as that the treatment of which we are discussing. It could only be done by testing it upon several hundred patients in various doses, carefully noting the effects upon the circulation and comparing the results with those obtained in a similar number of patients at the same stage of the disease and treated without drugs. The action of small quantities of atropine is to paralyse the terminations of the vagus in the heart and therefore to do away with the inhibitory action of that nerve. The heart is accelerated, the systole increased in extent, the diastolic expansion somewhat diminished, and the output of the heart per minute increased. It could not be expected that the severest cases would be saved by this drug but there are many borderland cases which might be considerably benefited by it, especially those associated with a slow pulse.

Lastly, it should be remembered that the mere presence of irregularity of the pulse or of the physical signs of cardiac dilatation is no indication whatever for the use of cardiac stimulants and that strict rest in bed is the chief requisite for such cases.

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ON EUCALYPTUS OIL AS A VERMIFUGE IN ANKYLOSTOMIASIS.

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IN the summer of 1905 four male pygmies were admitted into Kasr-el-Aini Hospital under my care for treatment as they were found to be harbouring ankylostomata. They were somewhat anæmic and three of them had enlarged spleen. I proceeded to treat them in the usual way with thymol, though not quite in the full doses on account of their small size and the age of the smallest. The result of the thymol treatment was not good as only two male ankylostomata were expelled from the four. Dr. Looss, the helminthologist to the school, then drew my attention to a method of treatment described by Dr. Hermann of Mons, in Belgium, as employed by him in the treatment of ankylostomiasis in miners, in which eucalyptus oil acted, with the assistance of chloroform, as a vermifuge. I accordingly tried it upon them with the result that the first administration

yielded 150 worms and the second 30 more; they unfortunately left for England before a third dose could be given. After this striking result I determined to try the method in other cases and during the summer I employed it at the hospital, not only on my own cases but also on those of my colleague during his absence on leave.

Our previous routine method was as follows. After the patient had fasted during the day a gramme of thymol was given in cachet in the evening; on the next morning the dose was repeated and followed by a purge. But often the drug produced great depression of the heart with slowing of the pulse, and artificial stimulation in the form of strychnine and strong coffee had to be resorted to, and fatal results had even occurred. The patients on thymol were therefore always a source of anxiety to the sister in charge and to the hospital orderlies and much time was wasted in watching them. A safer method was therefore much to be desired.

The treatment below described fulfils, in my opinion, this requirement and has been followed, when properly carried out, by very good results. I do not, however, consider it absolutely perfect, as there are *occasional* failures, but I am certain that it is more successful than thymol is in such doses as can be given in safety. Dr. Hermann described in his paper several methods of treatment—with thymol, filix mas, and eucalyptus, but concluded that the last drug was the most successful; his formula was as follows: eucalyptus oil, 2 grammes; chloroform, 3 grammes; and castor oil, 40 grammes. This formula I used at first and then, finding that no ill effects were produced in many cases, I increased the doses as follows: eucalyptus oil, 2·50 grammes; chloroform, 3·50 grammes; and castor oil, 40 grammes.

The following is the routine method employed by me now at Kasr-el-Aini Hospital. About 6 P.M. the patient takes a saline purge (though this is not absolutely necessary, as for a long time I discarded it, though, perhaps, it is better not to omit it) and then fasts all night. On the next morning at 7 o'clock he takes half the above mixture and in half an hour's time he takes the other half. He is kept in bed still fasting until the bowels act. Should any depression occur after the first half of the drug the second half is omitted. (This happened in the case of the youngest pygmy who only took half the dose.) In young boys and feeble anæmic patients the dose is divided into thirds and given with twenty-minute intervals. The dose can be repeated every other day. This effects a considerable saving of time necessary for treatment. As a rule, from three to four liquid stools follow, though sometimes only one. Dr. Looss, who examined the stools in the earlier cases for me, tells me that in the first stool there are no worms, and that in the first solid stool after the medicine has ceased acting there are also no worms. He found further that the worms are expelled alive. This may account for the absence of worms in the solid stools as the worms may have time to recover and refix themselves.

Occasionally the first administration is not successful, though why I do not know, and again very occasionally after one or two negative results a few worms appear. This may be accounted for in some instances, as Dr. Hermann suggests, by the fact that the worms, having entered through the skin just before admission, have not reached the gut until after the lapse of some time. Though in one case (which will be referred to again) a few days after an unsuccessful administration some worms were found *in situ* at the post-mortem examination.

The earlier cases were examined by Dr. Looss, but later I detailed a student week by week during the summer to examine the stools. Unfortunately, however, owing to stress of work on several occasions the stools were thrown away unexamined and so the results are not quite so full as I should like them to have been.

In 44 cases it was wholly successful, as one or more further doses of the eucalyptus mixture yielded no more worms. In some, also, one or more doses of thymol were given with the same object and the same result. In 21 cases a single dose was sufficient, one confirmatory dose of the eucalyptus mixture being given in 15, two extra doses in four, and in one two doses of the mixture and two doses of thymol with negative result. In four of this series thymol had been previously given before the eucalyptus was tried. In 16 cases two administrations were sufficient, as confirmatory doses showed. In some of these, as already mentioned, the first dose was unsuccessful and in several others the second dose expelled more than the first dose. In three cases three doses were necessary and in four cases four doses were given. One of these latter cases is very instructive. The first dose having expelled no worms thymol was given twice with a negative result; the patient was then given eucalyptus five times—the first three of these expelled worms whilst the last two doses yielded none. In 26 other cases, including the pygmies, it was very efficient, but the patients left hospital before confirmatory doses were given; thus in one case after 76 worms were expelled by the first dose the patient insisted on going home. So whether these were completely cured or not is uncertain.

In the majority of cases, with the exception of a first administration, if a negative result was once obtained further dosage expelled no more worms. The following instances are exceptions: 1. A man, aged 20 years; the second dose expelled none but the third expelled 76 and the fourth 33, the fifth being negative. 2. A man, aged 20 years; the fifth dose expelled none but the sixth expelled six. 3. A man, aged 25 years, who was extremely weak and anæmic, took the eucalyptus mixture on July 22nd, with the result that 47 worms appeared; a further dose on the 26th expelled none; he died on the 29th and 21 worms were found post mortem. (This case is not included with the successful cases above.)

In 29 other cases the mixture was given in some for diagnosis and in some for treatment. In 23 no worms appeared, in five the stools were lost, and in another thymol expelled two worms after two doses of eucalyptus had failed. In three other cases the following results were obtained. In one after the first dose of the eucalyptus mixture the stools were not examined but a dose of thymol expelled 13 worms; a second dose of eucalyptus yielded none. In another the first dose of eucalyptus expelled one worm; then thymol expelled four and a further dose of eucalyptus five. In the third a dose of eucalyptus and a dose of thymol were unsuccessful but a second dose of thymol expelled ten and a dose of eucalyptus seven; a final dose gave a negative result.

The most successful cases were as follows. A first dose expelled 329 worms, a second none. In another the first dose expelled 270 in spite of previous dosage with thymol. In a third the first dose expelled 37, the second 300, and the third none. In a fourth case the result of the first administration was not examined but the second yielded 150 and two further doses none.

That the chloroform is essential is shown by the fact that in three cases where the ova were present chloroform water was given in error instead of chloroform, with a negative result. Thus the treatment has been employed in 103 instances (the cases in which chloroform water was given being excepted), in 44 of which it was entirely successful and in 26 efficient, and in the other 33 the result was either unknown or else negative, the treatment being employed in some for diagnosis, or else mixed treatment was adopted. In one case, that of a patient who died, it was only partially successful.

I think, however, that it is obvious from a consideration of the above results that the treatment is satisfactory with reference to its vermifugal effects. Further, it is not unpleasant for the patient, the long fasting being unnecessary and the taste of the mixture not offensive. It is cheaper and repetition being possible three times a week the stay in hospital is shortened. Lastly, the absence, or rather rareness, of cardiac depression as a result is a good feature. All these facts make it an advance in treatment. As regards the dosage, if the patient be strong and fairly healthy I give the larger dose, but if very young (12 years of age or so) or very weak the smaller dose given in thirds. Oxyurides are freely expelled by it and I have used it in one instance to expel a tapeworm with success.

Cairo.

ABERRANT VACCINIA.

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PUBLIC VACCINATOR TO THE PARISHES OF PARKSTONE AND LONGFLEET, POOLE UNION.

A VACCINATION vesicle in an anomalous situation is perhaps no very great rarity; they are always worthy of report as awkward questions of diagnosis may be raised by them. I was fortunate enough to secure an excellent photograph of a case of this kind that came under my observation

last summer. The woman applied for treatment at the Bourne Valley Dispensary. The appearance of the "sore" of which she complained was that of a large mature vaccine vesicle and on inquiry I learned that her baby had been vaccinated a fortnight before and that the arm had "taken" well. The exact manner in which the virus had been transferred could not be ascertained. The baby's finger-nail

seems the most probable instrument of inoculation. The lip, as the illustration shows, was much swollen and it was very painful; there was considerable constitutional disturbance—pyrexia, headache, &c. These symptoms subsided in a few days and the vesicle ran the usual course.

Parkstone.

A FURTHER CONTRIBUTION TO THE STUDY OF MENTAL FATIGUE IN SCHOOL CHILDREN.

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IT is very useful to compare the mental fatigue produced in school children by the afternoon lessons (1) when there is only a short rest between the forenoon and the afternoon lessons and (2) when this rest is greater, in order to see if this last system of school hours is better than the first one. In my treatise on "Mental Fatigue in School Children"[1] are collected the results that I obtained with regard to afternoon teaching when this began only three-quarters of an hour after the conclusion of the forenoon classes, the interval of rest being from 12 noon to 12.45 P.M. and I am therefore in a position to compare these results with those I obtained last year, in which the afternoon lessons began two hours after the conclusion of the forenoon classes, the interval of rest being from 12 noon to 2 P.M. During this time the poorer children received a meal supplied at the public expense and those who were better off went to their homes.

As in the year 1900 I used the dictation method in these researches and in order to be able to compare the results obtained at two different periods I employed last year at the beginning and at the end of the afternoon classes the same dictation exercises as in 1900; I also took care that in the new one prepared for the experiments of last year the children should find the same difficulties as in the other two. The schools in which the trials were made were the same in which I experimented five years ago. The first dictation was given to the children at 2 P.M. when school was resumed for the afternoon classes, the second at 2.45 P.M., and the third at 3.30 P.M. during the last half hour of the lesson. For the correction and counting of mistakes I used the same method that I used in my work of 1900, reckoning separately mistakes and corrections made by the children. I also counted the children who did not make mistakes and divided the others into groups corresponding to the number of mistakes that they had made.

I do not report here the results obtained in all the classes but I have summarised them as if there were in all only two containing children of the average age of 11 years and eight months. I also show here the tables exhibiting the results obtained in 1900 in order that I may be able to compare the latter with the former and draw the conclusions that follow from the comparison.

TABLE I.—*Boys' Schools: General Summary of Results of the Year 1905.*

Trial.	Hours (P.M.).	Average age.	Written letters.	Mistakes. Total.	Mistakes. Per cent.	Differences.	Auto-corrections. Total.	Auto-corrections. Per cent.	Boys who did not make mistakes. Total.	Boys who did not make mistakes. Per cent.	Average of mistakes for every boy.	Below the average. Total.	Below the average. Per cent.
1	2	11 years and 8 months.	97,474	330	0·338	—	63	0·064	157	48·1	1·01	244	74·8
2	2½		96,368	811	0·841	+ 0·503	111	0·115	60	15·7	2·55	192	60·5
3	3½		98,820	849	0·859	+ 0·018	140	0·141	57	17·5	2·62	190	58·6

Boys.—Table I. shows in a concise form the results obtained last year in schools for boys. It will be seen that after three-quarters of an hour of lessons the boys made a percentage of mistakes 0·503 greater than the corresponding number obtained at the moment of the beginning of lessons after the midday rest. Also the percentage of auto-corrections was 0·051 higher at 2.45 P.M. than at 2 P.M. and the percentage of the boys who did not make mistakes fell from 48·1 at 2 P.M. to 15·7 at 2.45 P.M. At 3.30 P.M. the percentage of mistakes augmented only by 0·018 and that of auto-corrections by 0·026, while the percentage of boys who did not make mistakes rose from 15·7 to 17·5. The general results are that from the moment of the beginning of the afternoon lessons at 2 P.M. to the moment of the end of the school at 3.30 P.M. the percentage of mistakes augmented by 0·521 and that of the auto-corrections by 0·077, while the percentage of the boys who did not make mistakes diminished by 30·4 and the average of mistakes for every boy went from 1·01 to 2·62.

TABLE II.—*Boys' Schools: General Summary of Results of the Year 1900.*

Trial.	Hours (P.M.).	Average age.	Written letters.	Mistakes. Total.	Mistakes. Per cent.	Differences.	Auto-corrections. Total.	Auto-corrections. Per cent.	Boys who did not make mistakes. Total.	Boys who did not make mistakes. Per cent.	Average of mistakes for every boy.	Below the average. Total.	Below the average. Per cent.
5	12½	11 years and 4½ months.	87,600	640	0·730	—	69	0·078	61	20·89	2·19	162	55·4
6	2½		89,340	1348	1·508	+ 0·778	124	0·138	17	5·86	4·64	174	60·0

From Table II. it will be seen that in the year 1900, during the same period of time—namely, after two hours of lessons—the percentage of mistakes for every boy augmented

[1] Bologna: Regia Tipografia, 1901. A short article of mine on the same subject appeared in THE LANCET of May 11th, 1901, p. 1330.

by 0·778, and that of auto-corrections by 0·060, whilst the percentage of children who did not make mistakes diminished by 15·03. The average of mistakes for every boy went from 2·19 to 4·64. Between the results obtained in 1900 and those obtained in 1905 there are differences which required to be analysed. In the year 1900 the percentage of mistakes was 0·257 higher than in 1905, whilst the percentage of the auto-corrections was a little smaller. The percentage of boys who did not make mistakes after two hours of lessons was higher in the year 1905 than in 1900, but was higher in relation to those who did not make mistakes at the beginning of the afternoon lessons than to those who made mistakes at the end of the afternoon lessons. In the year 1905 the difference in the percentage between the results obtained at 2 P.M. and those obtained at 3.30 P.M. was 30·6, whilst after the same period of time in the year 1900 it was only 15·03. The average of mistakes for every boy was higher in the year 1900 than in the year 1905, but it was higher also at the beginning of the afternoon lessons immediately after the midday rest and therefore the difference, although great, is less than appears at first sight. From this it may be concluded that the work done by the boys during the afternoon lessons was in 1905 a little better than in 1900, although also in 1905 after only a quarter of an hour's work a great number of mistakes were found.

TABLE III.—*Girls' Schools: General Summary of Results of the Year 1905.*

Trial.	Hours (P.M.).	Average age.	Written letters.	Mistakes.		Differences.	Auto-corrections.		Girls who did not make mistakes.		Average of mistakes for every girl.	Below the average.	
				Total.	Per cent.		Total.	Per cent.	Total.	Per cent.		Total.	Per cent.
1	2	11 years and 8 months.	55,614	177	0·318	—	36	0·064	78	41·9	0·95	78	41·9
2	2½		54,112	349	0·644	+0·326	46	0·085	46	25·8	1·96	83	46·6
3	3½		58,865	434	0·737	+0·093	73	0·124	41	21·2	2·249	129	66·8

Girls.—Table III., which summarises the results obtained in the girls' schools in 1905, shows that after three quarters of an hour of lessons—namely, at 2.45 P.M.—the girls made a number of mistakes higher than at 2 P.M., corresponding to a percentage of 0·322. The percentage of the auto-corrections went from 0·064 at 2 P.M. to 0·085 at 2.45 P.M. The percentage of girls who did not make mistakes was 16·1 less at 2.45 P.M. than it was at 2 P.M. At 3.30 P.M. the percentage of mistakes was higher by only 0·093 and that of the auto-corrections by 0·039, whilst that of the girls who did not make mistakes diminished by 4·6. Therefore it results that from 2 P.M. to 3.30 P.M. the percentage of mistakes augmented by 0·419 and that of the auto-corrections by 0·060, whilst that of the girls who did not make mistakes diminished by 20·7. The average of mistakes for every girl went from 0·95 to 2·24.

TABLE IV.—*Girls' Schools: General Summary of Results of the Year 1900.*

Trial.	Hours (P.M.)	Average age.	Written letters.	Mistakes.		Differences.	Auto-corrections.		Girls who did not make mistakes.		Average of mistakes for every girl.	Below the average.	
				Total.	Per cent.		Total.	Per cent.	Total.	Per cent.		Total.	Per cent.
5	12½	11 years and 8 months.	36,300	108	0·297	—	26	0·071	58	50·87	0·94	71	32·50
6	2½		37,453	266	0·710	+0·413	46	0·122	23	18·40	2·12	82	65·60

The results obtained in the year 1900 and set out in Table IV. show that during two hours of lessons the percentage of mistakes augmented by 0·413 and that of the auto corrections by 0·051, whilst that of the girls who did not make mistakes diminished by 32·47. The average of mistakes for every girl augmented by 1·18. The differences between these two trials are so little that one can conclude that the results obtained from the girls were identical in the year 1905 and in the year 1900.

From the two tables which summarise the results obtained in 1905 it will appear that in respect of quality there is very little difference between the children's school work done at 2.45 P.M. and at 3.30 P.M., but that, on the other hand, there are great differences between the school work done at 2 P.M. and at 2.45 P.M. The fact that the quality of the school work is almost the same at 2.45 P.M. and at 3.30 P.M. proves that after three-quarters of an hour of afternoon lessons (even if there is a two hours' interval between the forenoon and afternoon classes) the children are so tired that their work is full of mistakes and becomes only a little worse after another hour of lessons. As the results obtained in the boys' schools and in the girls' schools were identical, it may be said with certainty—as I have already mentioned in my observations on mental fatigue—that although the children are after the mid-day rest in a condition of mind capable of accomplishing the best work of the day, nevertheless they cannot support three-quarters of an hour of mental application without betraying mental fatigue. Again, the results obtained in the year 1905, when there was a rest of two hours between the morning and the afternoon lessons, are almost identical with those obtained in the year 1900 when this rest was only of three-quarters of an hour's duration. It is therefore obvious that the first method of teaching presents no real advantages over the last one.

The conclusions at which I arrived in the year 1900 are accordingly confirmed by these later researches and I feel myself entitled to repeat with more certainty than ever the following words with which I closed my book upon mental fatigue in school children: "The work done by the children during the afternoon lessons is, on account of the great mental fatigue that it involves, of no advantage to their instruction but is full of danger to their health."

Bologna, Italy.

A CASE OF GLANDERS.

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A MAN, aged 37 years, a porter in the meat market, was admitted into the Royal Free Hospital on Jan. 5th, 1903, under the care of Mr. James Berry, to whose kindness I am indebted for permission to publish this case. The illness apparently began on Dec. 1st, 1902, with a slight attack of pleurisy, which lasted ten days, after which the patient resumed work. While out walking, however, on Dec. 16th he was seized with severe pain in the left leg and for the next three weeks was treated and sent into hospital as a case of acute rheumatism.

On admission the temperature was 102·4° F., the pulse was 96, and the respirations were 26. There was no swelling or inflammation of the hip or leg, but much pain on movement of the thigh; there was tenderness in the region of the hip-joint and down the back of the leg, especially behind the knee; the leg was easiest in the position of semi-flexion. On Jan. 14th severe pain was felt in the right arm and the elbow-joint became swollen; definite swellings also appeared above and below the joint in the subcutaneous and muscular tissues extending half-way up the arm and a quarter the way down the forearm. The skin was reddened and pitted deeply on pressure and the condition resembled that of cellulitis. Some crepitations were heard over the lungs. The temperature ranged from 102° to 104° and the patient was obviously very ill. The case was now regarded as one of septicæmia. The left ankle and right knee-joint became successively swollen and painful. On the 19th, five days before death, pustules appeared on the right arm over the swollen areas; these were discrete at first, with hard indurated base, varying in size from that of a pin's head to that of a split pea; later these became confluent, breaking down to form serpiginous ulcers. On the 20th a swelling appeared on the left cheek, which fluctuated, and the left eyelids became

œdematous and closed. On the 22nd the swelling extended to the right side of the nose. On the 23rd pustules appeared on the left cheek, then on the right leg, chest, and left forearm, till they gradually spread over the whole body. An ulcer appeared inside the left nostril discharging greyish-brown pus. There was no albuminuria throughout the illness. The patient was now semi-comatose and became unconscious 24 hours before death. The temperature ran up to 107° just before death which took place at midnight on the 24th. On the 23rd a culture was made from the blood and some fluid was withdrawn from the right knee-joint.

Necropsy.—The face, right arm, and both legs were much swollen, the skin pitting on pressure. There were swellings and pustules as described above. The cheek muscles were infiltrated with pus; the mucous membrane of the mouth was very sloughy; there were no nodules on the hard palate. As regards the middle ear there was no pus in either cavity; the maxillary antrum (left side) contained yellow glairy pus (like that in the right knee-joint) and the mucous membrane was studded with a few small yellow nodules resembling tubercles. On the ala of the left nostril there was an unhealthy-looking ulcer exuding greyish-brown pus but the nasal septum was hyperæmic only and showed no nodules and no ulceration. The meninges and the brain were normal. The mucous membrane of the neck, the trachea, and the larynx was studded with minute grey and larger yellow nodules, there being no ulceration, while that of the upper part of the œsophagus was studded with nodules similar to those on the wall of the trachea and larynx. The thorax, the pericardium, and the heart were normal. There were adhesions and fluid at the left base of the pleura. On removing the sternum scattered nodules were seen over the surface of the lungs, grey and yellow in colour and varying in size; they were more numerous over the left lung. Of these disseminated glanders tubercles most were on the surface but some were deeply seated in the lung substance. On section some were tough in consistence, others were broken down in the centre and exuding thin fluid; all were surrounded by areas of inflammation. Except for some enlargement of the liver and spleen nothing of importance was found in the abdominal organs. The cartilages of the right knee-joint were healthy and there was no apparent thickening of the synovial membrane. The joint contained a yellow glairy fluid like that in the maxillary antrum.

Bacteriology.—On Jan. 23rd a needle was put into the right knee-joint and some yellow, glairy, odourless pus was obtained; this pus gave a pure culture of an organism which morphologically and culturally resembled the bacillus mallei (a subculture on potato showed yellowish moist colonies which ultimately turned brown). The pus was therefore sent to the Jenner Institute for intraperitoneal inoculation into a male guinea-pig and it produced orchitis and death in 12 days. The cultures made from the exudate of the tunica vaginalis of the dead guinea-pig were not, however typical, and a second guinea-pig inoculated with these cultures remained quite well except for a small swelling at the seat of inoculation. In explanation of this apparent discrepancy Zieler[1] is quoted by Bulloch[2] as showing that inconstant results are obtained as regards a typical "Strauss reaction" when pus from a human source is directly inoculated, whereas with pure cultures the result is unequivocal. I made the mistake here, therefore, of using the pus instead of the pure culture for inoculation. The blood culture grew staphylococci only and further cultures made at the post-mortem examination from the pustules and nasal discharge were contaminated with cocci and other organisms.

Histology.—A section through a nodule in the lung showed a mass of leucocytes in the centre, surrounded by epithelioid tissue, in which the alveoli were obliterated; further out the alveolar walls were much thickened and catarrhal cells were present in the alveoli. Sections of lung stained for organisms by Nonlewicz's method showed some rod-shaped bacilli which were not, however, Gram negative and were probably putrefactive (the post-mortem examination was made 36 hours after death). The sections were kindly undertaken by Dr. Helen Chambers and further ones of the liver, the kidney, the spleen, the submaxillary gland, the nasal septum, the nasal ulcer, the pustules on the skin, the nodules in the larynx and maxillary antrum, the muscle of the face, and the bone marrow were stained and searched for micro-organisms with the same disappointing result. I think, however, in some of these a few faintly staining organisms can be made out resembling bacilli mallei.

Remarks.—I should like to point out the close resemblance between this case and the second case reported by Dr. E. W. Goodall in THE LANCET;[3] both cases were mistaken for rheumatic fever at the onset and in both the bacillus mallei was isolated from fluid obtained from a knee-joint. Secondly, the still closer parallel between it and the case mentioned in a leading article in THE LANCET,[4] that of a horse-keeper in the employ of the Andrew Star Omnibus Company. In this case there was an onset with pleurisy, followed by pain in various successive joints, and the patient was regarded as suffering from rheumatic fever. After admission to a hospital pustules developed and the condition was considered to be one of septicæmia. A day before death it was suspected that the case might be one of glanders and cultures confirmed the diagnosis. Other points of interest in the case which I have recorded are: (1) the long interval between the involvement of the joints—too long for rheumatic fever; and (2) the combination of high temperature with a low pulse and respiration rate; this was well marked throughout the illness.

Portman-street, W.

[1] Über Chronischen Rotz beim Menschen, Zeitschrift für Hygiene, Band xlv., 1903.

[2] Centralblatt für Bakteriologie, Band xxxix., 1905, Heft I.

[3] THE LANCET, August 26th, 1905, p. 589.

[4] THE LANCET, June 17th, 1905, p. 1661.

RUPTURE OF THE UTERUS, WITH ILLUSTRATIVE CASES.

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SOLUTIONS of continuity, with or without loss of substance, may arise during labour in any portion of the parturient canal. In the order of frequency the parts affected are the perineal body and lower end of the vagina, the cervix and upper part of the vagina, and the body and fundus of the uterus. The injuries vary very much in their extent and importance, the gravest being those that affect the body of the uterus and the upper part of the vagina. The lesion may arise suddenly, as in the case of rupture properly so called, or gradually, as the result of ong-contin ued pressure of a hard part of the fœtus on some particular portion of the genital canal. In the latter case the maternal tissues may be slowly burst asunder in the further course of parturition or they may be destroyed by a process of sloughing that is only completed some days after labour is ended. Ruptures of the uterus and upper part of the vagina may be complete, involving all the coats, or incomplete. In the latter case the lesion most commonly extends from within outwards, the muscular layers being more or less completely sundered; in rare cases the peritoneal coat only is affected or the tear begins in it and spreads inwards into the muscular layers. Where the injury involves the whole of the coats and a communication is established between the cavity of the peritoneum and that of the genital canal it is said to be perforating, as opposed to non-perforating or incomplete where the abdominal cavity is not opened. Estimates of the frequency of uterine rupture during labour vary very greatly, from 1 in 482 labours (Collins), 1 in 3403 (Jolly), to 1 in 4429 (Ramsbotham). The higher proportions have occurred in the practice of lying-in hospitals where there is a larger number of difficult deliveries. Taking the lower ratio as more nearly representing the actual facts, four or five ruptures probably occur every year in the city of Birmingham; many, especially of the graver cases, are, however, not recognised but are certified as deaths from post-partum hæmorrhage or from collapse or syncope following delivery.

Ruptures of the uterus during labour occur more frequently in multiparæ than in primiparæ, in the proportion of more than 8 to 1 (Bandl, 12 per cent. primiparæ). In a first labour the stronger pelvic attachments of the cervix and vagina and the firmer abdominal pressure tend to prevent the upward movement of the contraction ring, while the uterine tissues appear better able to resist excessive tension. When abnormal

stretching of the lower uterine segment has once taken place it is probable that in subsequent deliveries over-stretching occurs more readily and quickly. Moreover, in multiparæ the uterus is often to be found displaced to one side, or in the case of a pendulous abdomen to the front, so that excessive stretching easily takes place at one part of the circumference of the lower uterine segment. Rupture is relatively more frequent in poor people than among the well-to-do and in elderly women because of the influence of repeated deliveries. The child is more frequently male; Spiegelberg found 48 boys in 67 cases, a proportion of more than 2 to 1. Predisposing causes, congenital or acquired, may be present in the uterus. Among the congenital conditions, anomalies of development of many kinds, as, for instance, incudiform, arcuate, one-horned, or double uterus, may be accompanied by abnormal thinness of the walls, especially at the fundus in the neighbourhood of the tubal angles, and in rare cases the thinning may be so great that, just as in tubal gestation, rupture takes place either spontaneously or after an injury. Frequently also in malformations there is congenital narrowing of the cervical canal and of the external os, so as to give rise to obstruction in delivery.

A predisposition to rupture is sometimes acquired, as where Cæsarean section has previously been performed, or where lacerations followed by cicatrisation have occurred in previous labours. In recent years certain methods of performing vaginal fixation have given rise to rupture in succeeding labours. Sometimes the growth of a tumour is a cause, as in certain fibroids and in cervical cancer; in a collection of 180 cases of labour complicated by cancer Herman found that no less than 11 of the patients died from rupture of the uterus. Abnormal friability of the tissues has been described in many cases and may be caused by certain local chronic degenerations and indurations the result of chronic metritis; in many cases of placenta prævia this friability is well marked. The intimate nature of the changes is not understood; fatty degeneration has been suggested but not proved; a similar condition of easy lacerability without obvious lesion is occasionally observed about the perineum and is as little understood there as in connexion with the uterus and vagina. In one of the cases about to be related (Case 2) this friability was extremely well marked. Rupture scarcely ever occurs except when labour has been of long duration and the liquid amnii has long drained away. It may happen, however, while the external os is still narrow, especially when the presenting part is high and no proper bag of membranes has been formed. Very rarely the accident has occurred while the membranes were intact; in such cases the membranes have been said to be very resisting, and the lower segment has been weak and thin walled.

In the great majority of cases the accident depends upon mechanical difficulties in the passage of the child, of which the most common are contracted pelvis, transverse presentation, and hydrocephalus. In 230 cases collected by Merz contracted pelvis was the cause in 70, transverse presentation in 26, and hydrocephalus in 18 cases. In cases of extreme pelvic contraction obstetric interference takes place as a rule earlier and rupture is less common than in those of moderate degree. In the latter cases the head is early driven into the brim and may there fix the lower end of the cervix, while the lower segment of the uterus becomes expanded upwards and thinned. Incarceration of the end of the cervix is, however, not essential and is not a common factor in the causation of rupture. Exostoses and hard tumours in the pelvis may bore through the peritoneum and lead to rupture from without inwards. Hardness and rigidity of the external os and cervix, consequent on the presence of tumours or on cicatrisation of former lacerations or sloughings, may cause rupture of the lower uterine segment. Excessive size or hardness of the head of the fœtus or of its body, as in a case from which a specimen has been placed in the Birmingham University Museum, or faulty position as in face or transverse presentations may lead to the accident. Presentation of the placenta is also a common cause of rupture because of the alteration in structure and elasticity of the lower uterine walls consequent upon the development of the placenta in an abnormal situation.

Ruptures are commonly distinguished according to their apparent causation into spontaneous and traumatic. The former are due to deficient power of resistance of some part of the uterine or vaginal wall relative to the pressure brought to bear upon it. Traumatic ruptures require to be divided into those in which the violence directly produces the lesion and those in which the external force merely hastens an accident already impending. They may be due to the hand or to instruments. Among the latter may be mentioned the forceps, cephalotribe, sharp and blunt hooks, and last, but by no means least, Bossi's dilator and its numerous modifications. The introduction of the hand in performing version may cause laceration, especially if it is not kept quiet and spread out during the pains; or rupture may happen while the foot is being found and brought down, or especially while the fœtus is being actually turned. In such cases the accident is shown by the occurrence of bleeding and by the operation suddenly becoming exceedingly easy. As a general rule, even where the lesion appears to be due to injury by the hand or instruments, the way has been well prepared by the previous course of labour, and the trauma is merely the last straw. Even here, however, a higher degree of skill might in many instances prevent the occurrence of rupture. The rupture usually begins in the cervix and lower uterine segment, whence it may be prolonged upwards into the body of the uterus and downwards into the vaginal vault. The next most common position for the rupture to begin is in the upper part of the vagina and the least common situation is in the uterine body. The direction of the tear is generally oblique but may be transverse particularly when it is seated low down, or longitudinal especially when it occurs laterally; in the last case the rupture is often merely a prolongation of the tear that naturally occurs in the cervix during labour. The borders of the rupture are usually ragged, torn, thinned, and infiltrated with blood; in many cases the walls of the uterine body are found to be enormously thickened.

It has already been stated that in the great majority of cases rupture of the uterus depends upon mechanical obstruction to the completion of labour. The manner in which the accident is brought about was first satisfactorily explained by Bandl in papers published in 1875 and since then his mechanical theory has formed a firm groundwork for our knowledge. To understand Bandl's theory it is necessary first of all to consider the changes that naturally take place in the parturient canal in the process of labour. At the end of pregnancy the body of the uterus forms a large bag evenly and completely filled by the ovum. The cervix is by comparison little changed; its walls are soft and its cavity, often slightly dilated, is filled with thick jelly-like mucus. In multiparæ the cervical canal measures from three to four centimetres in length, but in primiparæ already before labour begins the upper half or more of the canal becomes dilated and taken up into the general uterine cavity, so that there is apparent shortening to two centimetres or even less. The walls of the uterus vary very much in thickness but on a rough average it may be said that those of the cervix measure one centimetre and those of the body rather more than half a centimetre. In the course of labour the parturient canal becomes differentiated into two portions with opposite physiological functions. The uterine body with the exception of its lower segment actively contracts to expel the ovum, while the lower segment, together with the cervix and the vagina, forms a passive distensible cylinder, a kind of delivery tube or excretory duct. The walls of the uterus become thicker and the cavity smaller as the ovum is forced downwards; the vagina, cervix, and lower uterine segment, on the contrary, become gradually distended into a thin-walled cylinder with a diameter of four inches or thereabouts. The length of this cylinder may also measure four inches even in normal circumstances. In this condition the position of the internal os is no longer recognisable to the touch, although on anatomical preparations the decidua can be seen ending abruptly at the junction of body and cervix. The distinction between the active and passive portions of the canal becomes marked sooner or later after the beginning of labour and when the hand is introduced for any purpose into the uterus the limit between the two portions may be recognised as a more or less prominent ridge; in obstructed labour the distinction becomes much more marked and is often visible and palpable through the abdominal wall as a groove or depression running transversely at some distance above the pubes. This boundary, marked as a prominence on the inside and a depression on the outside of the uterus, is called the contraction ring. Much discussion has taken place upon its nature and exact relations. According to some observers it corresponds to the internal os, on which view the whole uterine body contracts and only the cervical canal takes part in the formation of the thinned and expanded portion of the parturient canal.

Another and more generally accepted view is that the contraction ring is a phenomenon peculiar to labour, that it does not correspond to any definite anatomical structure, but that as the direct result of contraction it is formed at a position several centimetres above that of the real or anatomical internal os. On this theory the portion of the body of the uterus between the contraction ring and the internal os is called the lower uterine segment and it is differentiated from the cervical canal by being lined with a smooth decidua which ceases below in a fairly definite line at the level of the internal os. The discussion of the exact nature of the lower uterine segment has become very complicated and prolix, so that it cannot with advantage be entered upon here, and, moreover, the question is one rather of academical than of practical interest. The level of the contraction ring corresponds in front nearly to the place where the peritoneum becomes closely united with the muscular wall of the uterus and this is a little above the upper limit of the empty bladder. In the course of the first stage of labour as the external os dilates the cervix in front is drawn up and carries with it the bladder above the pubes. At the end of the first stage, therefore, the level at which the contraction ring forms is at a position nearly midway between the pubes and the umbilicus.

When any obstruction to delivery exists the uterus continues to contract strongly, its walls gradually becoming thicker and its cavity smaller, so that the ovum is pressed more and more into the lower distensible portion of the parturient canal. In equal steps with this change in relations the contraction ring constantly rises higher and higher until it may become level with, or even higher than, the umbilicus. At first the pelvic fastenings of the cervix, especially the connective tissue at the bases of the broad ligaments, and the utero-sacral ligaments yield and allow the cervix, together with the vagina, to rise higher and higher into the abdomen. The stretching capacity of these fastenings is finally exhausted as well as the distensibility of the vagina and cervix and then any further contraction of the uterus leads to rupture. The liability to rupture is much greater when the lower uterine segment is unequally distended, as, for example, in pendulous abdomen with anteversion of the uterus; in lateral obliquity of the uterus, as frequently seen in multiparæ; in contracted pelvis, when the vertex undergoes Naegele's obliquity; and in transverse presentations, where the side on which the head lies is always more distended.

SYMPTOMS AND DIAGNOSIS.

The mechanism of production of uterine rupture during labour being understood it is possible to deduce principles of treatment. But it is first necessary to be able to recognise at the bedside that a rupture has occurred and it is of even greater importance to be able to foretell that rupture is threatening, because here, as always, prevention is better than cure.

Threatened rupture.—When labour is protracted a careful watch has to be made for the symptoms of beginning exhaustion of the patient. The first and most easily recognised of these symptoms is found in the pulse and when this does not drop below 100 even in the intervals between the pains immediate delivery is indicated. If the labour be still left to itself the general condition of the patient rapidly deteriorates, as shown by an anxious expression of countenance, restlessness, and groaning even in the intervals between the pains, by a rise of temperature to 101° F. or more, and by a gradual increase in the pulse-rate. An examination of the abdomen then shows that the upper contracted part of the uterus forms a firm well-defined tumour in which fœtal parts cannot be made out. Across the front of the uterus the contraction ring is seen or felt as a transverse or oblique depression; when first noticeable this is at a position two or three inches above the pubes, and as the uterus retracts more and more the contraction ring gradually rises towards, or even passes beyond, the umbilicus, at the same time becoming more and more clearly defined. Below the lower segment of the uterus takes up more and more of the fœtus and forms a rounded swelling tender to palpation. It is necessary not to confound these signs with those present when the liquor amnii has escaped and the uterus has become closely applied to the neck of the fœtus; here the sulcus corresponding to the neck may be mistaken for the contraction ring and the broadening of the uterus over the shoulders for the retracted uterus; in the intervals between the pains, however, fœtal parts can be felt. In threatened rupture the round ligaments become stretched so as to form tense cord-like bands running almost vertically. When the contraction ring runs very obliquely across the abdomen and the round ligament of one side only is very tense and easily felt it may be inferred that the lower segment is becoming unequally and dangerously stretched and that unless speedy delivery is effected rupture is imminent.

Actual rupture.—When the rupture actually takes place the symptoms may occur with startling suddenness or may come on gradually. In a typical case labour is progressing with strong pains when in an instant, at the acme of a painful uterine contraction, an intense local pain is experienced, coupled with the feeling of something having given way; the labour pains cease, while the local pain becomes continuous and severe, the face drawn, the eyes dull, and there are great anxiety and feeling of oppression. Symptoms of collapse rapidly set in, shown first in the pulse, which becomes frequent, small, and soft; pallor, cold extremities, cold sweat, hurried breathing, and attacks of unconsciousness with or without convulsions are rapidly followed by the death of the patient. In most cases the blood escapes from the vagina in quantities varying considerably with the tearing and crushing of the parts; the site of the rupture if it can be reached is found to be notably tender; the presenting part of the fœtus recedes and becomes more moveable and if the fœtus has escaped into the peritoneal cavity may disappear altogether. When the fœtus has escaped into the peritoneal cavity a change in the form of the abdomen is observed: the uterine fundus disappears, the abdomen becomes broader, and the fœtal parts can be felt with remarkable clearness through the abdominal walls. When the rupture is lateral the empty and contracted uterus may be felt on one side of the lower abdomen. The fœtal heart ceases to be audible and fœtal movements cease.

In a very large proportion of cases the symptoms are less acute than those above described. Collapse may only gradually develop, sometimes after many hours, or may be absent when the rupture is incomplete or gradual. The amount of shock varies very much and depends not so much upon the size of the rupture as upon the quantity of blood lost and upon the soiling of the peritoneum. Hæmorrhage may be concealed and the blood, instead of escaping through the vagina, may be poured out into the peritoneal cavity or extravasated into the pelvic connective tissue. In the latter situation it may give rise to a large subperitoneal hæmatoma at the side of, or behind, the uterus and may raise the peritoneum and form a mass extending even as high as the kidneys. Much less commonly emphysema occurs; crepitation due to the presence of air may be felt in the uterine wall; or the air may be pressed into the pelvic connective tissue and thence spread to the mons Veneris, the thighs, and over the abdomen as high as the chest. From such a uterine emphysema fatal air embolism may arise.

Sometimes symptoms of bleeding with a moderate degree of local pain are the only phenomena of the first few days even in large ruptures. In some cases, usually when the whole or the greater part of the child remains in the uterus, the labour pains may continue. In a few recorded instances of rupture following version, internal or external, the patient has died in a few days after delivery without having shown any of the usual symptoms of rupture.

In the upper part of the vagina perforating ruptures occur similar in their importance to uterine ruptures. In this position lacerations appear to be relatively more often due to external violence; the vagina may be torn from the cervix in front, behind, or even all round. The imminence of rupture in this situation cannot be so easily detected as in the case of the lower uterine segment, although extraordinary tension of the vaginal vault may sometimes be observed as a warning sign. When rupture takes place here bleeding is usually less profuse than in rupture of the lower uterine segment; labour pains do not so suddenly cease and shock is, as a rule, less because the child's body only gradually escapes into the peritoneal cavity. Prolapse of the intestine is more frequent in these cases and may lead directly or indirectly to a fatal issue as in Case 1 about to be related. The prognosis is grave: out of 47 cases collected by Ludwig 27 died—six from hæmorrhage, 16 from peritonitis, and five from other complications. The treatment depends upon the same principles as that of rupture of the uterus itself.

In the following case a rupture had occurred in the posterior vaginal fornix probably as the result of criminal

abortion. Through the tear a coil of sigmoid flexure escaped into the vagina and as the result of strangulation and infection became gangrenous and escaped as a large slough on the ninth day after the placenta was removed. The operation of intestinal anastomosis was undertaken two months later and resulted in the death of the patient, an unfortunate termination which was due, at least in part, to bleeding from the torn uterus.

CASE 1.—A multipara, aged 35 years, was admitted urgently to the General Hospital, Birmingham, on Dec. 18th, 1902, with the history that she had been losing for three weeks and that a fœtus of four months' development had come away on the 16th. A medical man was first called in on the 17th and attempted to remove the placenta under chloroform, but finding a rupture of the vagina he introduced a drain of iodoform gauze and advised the immediate removal of the patient to hospital. The patient was very fat and there was a suspicion that the abortion had been criminally procured. On admission she was anæsthetised and the parts were cleaned in the usual manner. An extremely fœtid placenta was removed from the vagina and then a coil of large intestine with shining surface, defiled with blood but not much congested, was found in the upper part of the vagina. The coil was well washed with boric lotion and returned into the peritoneal cavity through a tear which extended for four inches across the posterior fornix of the vagina close to the cervical attachment and outwards behind the lower end of the left broad ligament. The uterus could not be pulled down with volsellæ; it was enlarged and its cavity measured five inches. Douglas's pouch was well mopped out and drained by a large strip of gauze with the lower end left in the vagina. On Dec. 23rd thick fæcal material was found on the vaginal packing and an enema returned through the vagina. On the 27th a slough comprising about five inches of large intestine came away. Afterwards the whole of the fæces escaped through the vagina, although the general condition of the patient remained quite satisfactory. Two attempts by the vaginal route were made without success to close the artificial anus, which was situated very high up at the apex of a long and narrow vagina.

On Feb. 28th, 1903, a plastic operation was undertaken through the abdomen with the patient in the Trendelenburg position. A corpus luteum cyst enlarged the right ovary to the size of an orange and this ovary and the tube were removed to give room. Two lengths of large intestine ran down the front of the sacrum to the bottom of Douglas's pouch where they were firmly fixed by dense adhesions to the back of the uterus and broad ligaments and to the front of the sacrum. These portions of intestine represented a long coil of the sigmoid flexure from which the extremity had sloughed off. At the lower end of the right one was an opening admitting the tip of the index finger; the left one was doubled upon itself and no opening could be found into its side or tip until boric lotion was injected through the anus, when the coil distended and the lotion was seen to escape from a hole at the apex not larger than a No. 3 catheter. After separating the intestine from its adhesions the two ends were anastomosed by suture. In holding up the uterus with a volsella to enable the adhesions to the sacrum to be dealt with the substance of the organ was torn widely and there was moderate hæmorrhage from this tear as well as from the adhesions. Catgut sutures were applied to stop the hæmorrhage from the uterine tears, a gauze drain was passed from the bottom of Douglas's pouch into the vagina, and the abdominal wound was closed in the usual way. At the end of the operation, which had lasted one hour and 40 minutes, there was great shock from which the patient never rallied. Death took place ten hours later. At the necropsy all the organs were found to be fatty. In Douglas's pouch were several ounces of black clotted blood which appeared to have come from the torn uterine wall. The anastomosis of the gut was perfect.

The prognosis of rupture of the uterus, always very grave, has somewhat improved since the introduction of antiseptics into midwifery. The result depends on immediate and correct treatment being undertaken. In deciding upon the treatment the child may be left out of consideration, its chance being all but hopeless because of the previous long duration of labour and because after the tear there are hæmorrhage and detachment of the placenta, and sometimes also because the umbilical cord is caught and compressed by the rupture. In 237 cases collected by Jolly only 7·5 per cent. of the children were born alive, and to arrive even at this figure all cases of craniotomy were excluded. As regards the maternal mortality Hugenberger in 298 cases found only about 5 per cent. of recoveries, while in Jolly's statistics one mother in six, or about 17 per cent., recovered. Recovery is most frequent when the fœtus has remained wholly or in part in the uterus, or has been extracted through the vagina. In cases of incomplete rupture the outlook, according to Spiegelberg, is as grave as in the perforating form. Secondary hæmorrhage may be fatal, as in the case in the university museum already mentioned. As a rule death is due to diffuse septic peritonitis or later to suppuration of a hæmatoma, or to purulent peritonitis. Schultz, in a collection of 193 cases of rupture from different authors, reckons that in cases left untreated the rate of recovery is 20·2 per cent.; in cases treated by drainage 36 per cent.; and by cœliotomy 44·70 per cent. of the mothers are cured. Statistics of lying-in hospitals give the best evidence of the severity of the accident because the whole of the results are known, favourable and unfavourable. In 80 cases in the Berlin Clinic Koblanck found 56 perforating cases with 47 deaths, and 24 incomplete with 12 deaths. Franz has reported 12 cases occurring in the Halle Maternity; of these, two were incomplete and both died; ten were complete, and of these one was moribund on admission and the other nine were subjected to abdominal section, with only two recoveries. Varnier published 23 personal observations in 1901. 11 were treated from 1885 to 1897 by delivery by the vaginal route followed by plugging; of these only one patient recovered. Between 1897 and 1901 12 cases were treated, of which six were treated by abdominal section and repair of the rupture with three recoveries; in the other six death occurred too speedily to admit of laparotomy. A rupture that has healed may again rupture in the next pregnancy, but several observations are on record in which the patient has safely borne a child one and a half to two years later.

The causes of death are manifold. Shock and hæmorrhage, especially when combined, may be rapidly fatal. If the patient survives the immediate accident and if the fœtus is expelled into the abdomen the dangers are the same as those of extra-uterine gestation. Secondary hæmorrhage from an artery in the uterine wall may occur even weeks after the rupture. The bladder may be ruptured and extravasation of urine take place into the connective tissue, or, as above related, a coil of intestine may be caught in the laceration and become strangulated.

By far the most common issue in a patient who survives the primary shock is death from the consequence of septic infection. The risk of infection varies directly with the duration of labour, with the number of vaginal examinations, and with the severity and duration of the manipulations necessary for delivery. Putrescible material is present in abundance and the mucus that ordinarily protects the parts from the evil effects of germs is conspicuous by its absence. The fœtus may die in the course of the prolonged labour and may then become putrid; as also may any parts of the placenta and membranes that have become separated from their attachments. Any blood that is present in the canal and all those tissues that have been compressed, torn, or bruised, and have thus been lowered in vitality, also afford favourable opportunities for the growth of germs. The toxins that result are absorbed by the freshly made tears, by the peritoneum in perforating lesions, or at the placental site. The last-mentioned avenue of infection is of extreme importance, not only because infection here is extremely likely to take place but also because of the great difficulty of treating it effectually when complicated by rupture. Even when the laceration of the vagina or lower uterine segment is properly treated and when peritonitis does not arise from this source it is quite possible for the infection of the uterine cavity to cause death from septicæmia or peritonitis. This possibility should, therefore, always be borne in mind and for this reason, as well as because the removal of the uterus affords better drainage of the peritoneal cavity in an infected case, the uterus should be removed when doubt exists as to the presence of infection.

The antiseptic conduct of labour appears in rupture to be useful, not only in preventing the later deaths from infection just referred to but also in diminishing the number of deaths that take place in a few hours from so-called shock and collapse. Rapid absorption of toxins by the peritoneum is probably in these conditions a very important factor in bringing about the fatal issue.

TREATMENT.

It is of the utmost importance to have clear ideas of the best treatment to pursue in a grave emergency such as is rupture of the uterus occurring during labour. Hesitation and delay may be as fatal as the employment of wrong methods. The treatment falls naturally into two divisions—preventive and curative. Prevention consists in the correct management of cases of obstructed labour, especially in the second stage, and includes a proper appreciation of the methods of effecting delivery in these cases and of the indications for putting them into practice. Two golden rules must never be forgotten. The first is that when there is any reason to suspect a cause for obstruction to labour ergot must never in any circumstances be administered until the child is delivered. The second is that in a case of obstructed labour, where the waters have escaped and the signs of tonic contraction of the uterus are present, version must not be performed. In exceptional cases some authorities consider it good practice to make a careful trial of version under deep anæsthesia when the child is still alive, because this is a sign that the stretching of the thinned lower uterine segment is not yet extreme; but as a general rule even when the child is living perforation of the head or decapitation is to be preferred, because the interests of the mother are paramount and her life is in imminent danger.

In protracted labours with strong pains a careful watch should be kept upon the condition of the uterus and of the round ligaments. The position of the contraction ring should particularly be observed, especially during a strong pain, when it may sometimes be seen. In the slighter degrees of pelvic contraction the ring is not always sharply marked, since the presence of the head may lend firmness to the lower segment; careful examination during and between the pains will, however, enable us to distinguish the hard contracted uterine body from the softer distended lower segment and cervix. Of even greater importance is the condition of the round ligaments; when on the threatened side the ligament seems to be inserted at an unusually high level of the fundus and when marked tension persists even in the intervals between the pains there is always a considerable degree of stretching of the lower uterine segment.

When the signs of threatened rupture become marked immediate delivery must be effected. If the external os is not fully dilated multiple incisions or the hydrostatic bag may be employed. The method of extraction of the child must not increase the stretching of the already over-distended lower segment; as a rule, therefore, in vertex presentations perforation is to be preferred to the use of the forceps and in transverse presentations decapitation must be performed.

When rupture has actually occurred the treatment falls into two divisions: first, the extraction of the child and of the placenta and membranes; and secondly, the management after delivery. The delivery of the child may have to be undertaken either through the vagina or by abdominal section. Wherever possible the first method, that through the vagina, is to be preferred. If the head presents delivery by forceps or version should not be undertaken, but perforation and craniotomy should be performed. If the child has partly escaped into the peritoneal cavity without its long axis being displaced it should still be extracted through the vagina either by craniotomy when the head is presenting or by seizing a foot where this can easily be reached. If the child has mostly or entirely escaped into the peritoneal cavity cœliotomy must be undertaken for its extraction and the opportunity seized thoroughly to cleanse the cavity and to treat the ruptured uterus by suture or removal.

When the child has been delivered the rupture still remains to be treated and as to the best method great diversity of opinion still exists. Olshausen teaches that in rupture the most rational treatment is to open the abdomen and suture the laceration but admits that the results are not brilliant. Winckel formerly taught that laparotomy with flushing of the peritoneum and suture of the rupture was the best treatment but now is of opinion that drainage of the rupture by gauze through the vagina together with a tight abdominal pad and bandage so as to fix the uterus low in the pelvis is best and that douches should be avoided. Lately the routine employment of abdominal or vaginal hysterectomy has been practised; reference has already been made to Varnier's results by the abdominal method; the vaginal operation has been advocated more especially by Schröder and Winter.

As a matter of fact, no one method is applicable to all cases, but in each case the rupture must be treated on its merits. The main factor in deciding the method of treatment is the probability or otherwise of septic infection being already present. When the patient is probably not already infected and the other conditions are favourable the laceration should be treated on ordinary surgical principles with a view to its union; when, as is usual, there is the probability that infection has taken place the uterus should be removed either by the abdominal or vaginal method and free drainage of the peritoneal cavity should be provided for.

In one of my cases where septic infection had probably not occurred delivery of the fœtus by decapitation, hæmostasis by sutures and forceps, gauze drainage through the vagina, and a tight abdominal binder were the means of securing a favourable result. This case afforded a good illustration of the fact that sometimes labour may, so to speak, be latent—that is to say, it may progress for many days without being recognised as such by the patient even when she is an experienced multipara.

CASE 2.—The patient, a large fat woman, aged 41 years, was sent to the Birmingham General Hospital at a little before noon on April 12th, 1898, with a note from her medical attendant saying that he had been called to the patient in labour about 10 A.M., that the child's hand was then presenting, and that on passing his hand into the vagina with a view to perform version he found a rent at the upper part of the vagina through which his fingers passed into the peritoneal cavity; he immediately desisted and sent the patient to the hospital. The following history was obtained a few days later from the patient and her husband, both of whom agreed that she had completed about seven and a half months of pregnancy. The first five labours were all straightforward; the sixth child was born with the arm round the neck. In the fifth month of the present pregnancy the woman had a fall on to the left knee. On the last day of March, a fortnight before admission, she accidentally struck her abdomen against a wooden drawer, which caused severe pain, illness, and pallor. Since then she had been unable to go to work because "the waters kept flowing"; presumably the accident caused rupture of the membranes. For the last four or five days there had been pains in the back, something like labour pains, according to the patient's account, but not high enough. There had been discharge like matter for the last two days but no bleeding at any time.

On admission the patient showed only moderate symptoms of shock and did not complain of much pain; the fœtus lay with the head to the right and limbs to the front; no fœtal heart could be heard. Before examining through the vagina the patient was anæsthetised and the vulva and vagina were prepared in the usual manner before operation; a ragged transverse tear fully four inches in length was found in the posterior fornix just below the cervical insertion. The right hand of the fœtus passed through the tear into the peritoneal cavity; the margin of the cervix was found round the shoulder of the fœtus; a little bleeding was going on. Decapitation was performed by Ramsbotham's hook and the body of the child was removed by traction; the fœtal head was easily extracted by bimanual manipulation with a finger in the mouth. Slight bleeding continued and therefore the placenta was removed five minutes after the birth of the child. The uterus did not contract; injections of hot water were therefore employed, followed by plugging with iodoform gauze and afterwards by the injection of ergot deep into the muscles of the buttock. The rent in the vagina was then closely examined; it was found to extend further on the left side where it was continued into the connective tissue at the base of the broad ligament; the left side of the cervix was also found to be torn deeply. There were numerous freely bleeding points as well as general oozing of blood from the torn surfaces. Some bleeding points were secured by over-casting sutures and three large spurting vessels were tied. Great difficulty was experienced in suturing and tying the tissues which were as friable as wet blotting paper; for this reason no attempt was made to bring any part of the edges of the tear together by sutures. Several pressure forceps were applied to bleeding points and left on. A gauze drain was passed into Douglas's pouch which was clean and clear from blood clot. The vagina was then packed with gauze and a large pad of cotton wool was firmly bandaged over the lower abdomen so as to make pressure through the pelvic brim.

At the end of the proceedings the radial pulse could scarcely be felt. Ten minims of strychnine solution were

injected during the operation and after the woman was returned to bed a pint of saline solution was injected subcutaneously. The child was a female, 16½ inches long, and weighed three pounds; the placenta weighed 12 ounces. The external measurements of the pelvis were decidedly greater than the average, being 12, 12½, and 9½ inches respectively. 48 hours after the operation the forceps were removed, together with the gauze packing from the vagina and uterus but not from the peritoneum. In passing a small piece of gauze with very little pressure into the vagina the mucous membrane of the vulva was torn on the right side so that there was free bleeding, to control which two silk sutures were required. The abdominal binder was taken off on the sixth day after operation. The temperature remained normal until the evening of the fourth day, after which it rose every evening until the fourteenth day after operation; the highest point reached was 102·2° F.; on the fourteenth night a stool was passed which was said to contain about two ounces of pus, and thereafter the temperature remained normal until the patient was sent home well on the twenty-seventh day after delivery. In another case, in some respects like this one, similar treatment was not successful, the patient dying from septic peritonitis on the eighth day after delivery.

CASE 3.—The patient, a primipara, aged 25 years, who had a moderately flattened pelvis, sustained a perforating rupture of the vagina in the course of a protracted labour with shoulder presentation. After long-continued efforts at version under anæsthesia the bipolar method succeeded very easily; when the trunk was delivered great difficulty was experienced with the arms and it was then discovered that rupture had occurred. On my arrival the head and arms were still in the uterus; when extraction of the child was completed the rupture was observed to be a large transverse ragged tear in the posterior vaginal fornix close to the cervical insertion; no bleeding was going on and the peritoneal cavity did not appear to have been fouled; a large iodoform gauze drain was passed into the lower part of the peritoneal cavity and the vagina was loosely plugged with the same material. On the following day the patient was removed to hospital; the packing was twice renewed at intervals of two days under chloroform anæsthesia; the patient died from septic peritonitis on the eighth day after delivery. A post-mortem examination was refused.

Sometimes rupture takes place when the cervix is still only slightly dilated and the fœtus is still in the uterus. In such cases delivery is best effected by splitting up the anterior wall of the uterus so as to get complete access to the fœtus. After delivery the uterus can be immediately extirpated through the vagina. This treatment was successfully employed in the following case where an incomplete rupture occurred during forcible dilatation of the cervix in a multipara whose tissues were friable owing to the development of a placenta prævia. Recovery followed upon the operation, which is now known as vaginal Cæsarean section.

CASE 4.—The patient, aged 38 years, had arrived at about the fifth month of her twelfth pregnancy, all the others having ended normally at term. While out driving very profuse hæmorrhage occurred. On returning home the patient sent for her usual attendant who found the cervix partially dilated and proceeded under chloroform to dilate still further with a view to empty the uterus; when two fingers were in the cervix the patient gave a sudden lurch and the hand was immediately withdrawn. On examining again after the administration of more chloroform a large rent was found in the posterior fornix of the vagina and I was immediately summoned. When I arrived I found there had been a moderate loss of blood; the patient was pale and restless; the firm, enlarged uterus was on the right of the middle line and extended as high as the umbilicus. The cervix was dilated and rigid, admitting two fingers; behind it a large irregular cavity which would have held the fist was filled with blood clot; the hæmorrhage had ceased. Having obtained the necessary assistance I proceeded after incising the vagina and pushing up the bladder to split the cervix and anterior wall of the uterus until a macerated male fœtus of about the fifth month could be seized by the legs and extracted. The median incision was then continued as far as the fundus and the uterus gradually delivered. The organ was then completely divided into two and each half was removed after its corresponding broad ligament had been secured by three forceps. The peritoneal cavity was drained with a strip of iodoform gauze. At the close of the operation the pulse was 90; the extremities were somewhat cold; reaction speedily ensued and the patient made an excellent recovery. Rupture had taken place through the posterior vaginal insertion and extended up into the lower half of the right broad ligament; the vaginal insertion on this side was intact, as was also the uppermost portion of the broad ligament. The placenta had been attached to the right side of the uterus and its border came down to the edge of the internal os; its uterine surface was covered with adherent black blood clot over nearly its whole extent. The wall of the cervix on the right side was exceedingly friable.

The danger of infection of the uterus, the difficulty of treating it should it arise, and the distinct risk of fresh rupture occurring in a subsequent pregnancy should decide us in a doubtful case not to hesitate to sacrifice the uterus in order to save the woman. When the uterus has already been emptied and there is certainty, or distinct probability, that infection has already occurred, the uterus should be removed and this may sometimes be done with success even when septic peritonitis has already begun as in the case now to be related.

CASE 5.—In this patient there had apparently been a transverse presentation due partly to placenta prævia and partly to the presence of a submucous fibroid. The second stage of labour had lasted for at least four days until the contraction ring was exceedingly well marked. When first seen, 24 hours after delivery, the patient was in an extremely grave condition, as septic peritonitis had fairly begun and a sloughing fibroid was present in the uterus. In my opinion it is undoubted that the performance of vaginal hysterectomy was the only chance of saving life. The patient, who was a septipara, aged 37 years, and whose last child was born three years before, was first seen 24 hours after the delivery of a dead seven months child. She was pale and anxious; the pulse was 130; the temperature was normal; there were frequent severe colicky abdominal pains and repeated vomiting and retching. The abdomen was markedly distended and tender; there was visible peristalsis of the intestines; and the hard, round, tender uterus was fixed in the lower abdomen extending half-way to the umbilicus. There was very foul vaginal discharge; the cervix was patulous; in the posterior wall of the cervical canal about an inch above the external os was a small ragged depression and in the posterior wall of the uterus near the fundus was a hard rounded lump which seemed to be nearly as large as the closed fist. On the fifth day before I first saw the patient labour pains were said to have begun; a large bag of membranes protruded into the vagina and was ruptured. On the next day there were two considerable losses of blood; two days later ergot was administered and a few hours later the patient was placed under chloroform, a portion of placenta which was present was removed, and then a foot was seized and the fœtus was extracted, the remainder of the placenta and membranes being afterwards delivered by the hand inserted into the uterus. No vomiting occurred before delivery and there were no labour pains for the three days prior to the administration of the ergot. Two hours after I first saw the patient she was anæsthetised and a sloughing submucous fibroid was enucleated by the fingers. The ragged depression in the posterior wall of the cervix admitted two fingers into the peritoneal cavity; higher up at a distance of about three inches above the external os was a transverse prominent ridge—the contraction ring. It was decided to perform vaginal hysterectomy and this was done by splitting the uterus in the middle line anteriorly and delivering the organ; the broad ligaments were each secured by three forceps which were left on. After the removal of the uterus a considerable quantity of black blood clot which had a rather strong odour was swabbed out of the hollow of the sacrum, where it had apparently extended nearly as high as the promontory. A large drain of iodoform gauze was introduced into the peritoneal cavity. At the end of the operation the patient was collapsed and very pale and the pulse was 160. Within half an hour reaction set in and the patient afterwards made a most satisfactory recovery.

Birmingham.

HOSPITAL SUNDAY AT BRISTOL.—Jan 28th was observed in Bristol as Hospital Sunday. During the past eight years the sum of £12,748 has been raised by this fund and last year £2053 were realised.

A CASE OF DERMOID TUMOUR OF THE MEDIASTINUM IN A CHILD AGED TWO YEARS.[1]

BY GEORGE CARPENTER, M.D. LOND.,
PHYSICIAN TO THE NORTH-EASTERN HOSPITAL FOR CHILDREN.

A CHILD, aged two years, was admitted into the North-Eastern Hospital for Children under my care on June 22nd, 1905. In the previous November she had had pneumonia. She was healthy until the preceding July, when she became languid, contracted a cough, and subsequently developed the attack of pneumonia. At this time her chest was noticed to be bulging. Two days before she was taken to the hospital it was noticed that she could not lie down, her respirations were accelerated, and she complained of pain in her side. When admitted into the hospital she was cyanosed; there was sucking in of the lower intercostal spaces, mostly on the left side. The respiration-rate was 60 to the minute, the pulse-rate was 136 to the minute, and the temperature was 99° F. Her ribs were beaded and the anterior fontanelle was patent. The right side of the chest in front was dull from apex to base; over the apex the breathing was tubular in character and elsewhere there was deficient entry of air, passing on to absent breath sounds at the extreme base. On the left side in front there were dulness and tubular breathing above and below the clavicle. On the right side behind the chest was absolutely dull; the breath sounds were bronchial above the spine of the scapula and elsewhere vesicular and diminished but nowhere absent, not even at the extreme base. Over the left apex there were dulness and tubular breathing. The heart sounds were best heard over the fifth rib some little distance outside the nipple line, and accompanying the first sound was a systolic bruit. The liver was displaced; its free edge was felt four fingers' breadth below the costal margin in the nipple line and there was a distinct depression between the liver and the costal margin.

Such were the physical signs gleaned at a hasty examination and aspiration was proceeded with at once in sequence to an exploratory puncture; 13½ ounces of pale straw-coloured opalescent fluid were withdrawn. After aspiration the chest became resonant behind. Air entered quite well all over, accompanied by fine râles. In front the chest remained absolutely dull with deficient entry of air. The patient was again explored just outside the right nipple and the syringe became charged with blood. There was some hæmoptysis, a few drops after the exploration, perhaps half a drachm of blood. The heart sounds were now heard loudest just outside the nipple and the organ had probably shifted half an inch or so towards the mid-line; the bruit had disappeared. The liver receded about a finger's breadth. On closer examination it was noticed that the front of the chest was much bulged; it was rounded in outline and occupied more of the right side than the left. An x ray examination was made and it was reported by Mr. Sale-Barker that the whole of the right lung was opaque to the rays. The breath sounds on the left side became vesicular. After the aspiration the child rapidly improved. When she left the hospital on July 3rd the chest was still dull in front on the right side and the cardiac impulse was in the fifth interspace.

On July 31st the child was brought to the out-patient department cyanosed and moribund. She was re-admitted into hospital and died shortly afterwards. At this time on a hurried examination it was found that the right chest was completely dull back and front and the free edge of the liver was four fingers' breadth below the costal margin in the nipple line. A post-mortem examination was made the same day. The left pleura was healthy as was also the right pleura. In front of the right lung was a mass of the size of a fist. On incising this from six to eight ounces of clear fluid escaped; inside the cyst was some cheesy material with a few hairs lying at the bottom. The rest of the tumour felt hard. The right lung was much compressed. Dr. Theodore Fisher, who examined the specimen, made the following report: "The tumour is roughly spherical. In addition to displacing the heart slightly to the left it projected into the anterior mediastinum and reached to the inner surface of the left lung. The right lung was compressed into an airless strip which lay behind; the compressed lung did not occupy more than one-half of the space of the lung on the opposite side. On section the tumour is chiefly composed of a considerable number of cysts, the largest of which is the cyst which has been opened. Between the cysts running from above downwards is a partition composed of fat and fibrous tissue and containing a few calcareous masses. Most of the cysts contained a gelatinous material of a light brownish colour. In the large cyst which had been previously opened were sebaceous-looking material and short hairs."

Welbeck-street, W.

[1] The specimen was exhibited at the meeting of the Society for the Study of Disease in Children on Oct. 20th, 1905.

ON THE UNIFORM LINEAL GROWTH OF THE HUMAN FŒTUS.

BY R. CADWALADR ROBERTS, B.SC. LOND.

IT is well known that the human fœtus grows in length between the third month and full term at a nearly uniform rate, more especially from the fourth or fifth month onwards, and it is easy to find a rule for estimating the length—in inches or centimetres—of the fœtus for this interval. Thus, we have only to multiply the lunar month of gestation by five and we find the length in centimetres at the particular month.

Age.	Length.
5 months	25 centimetres.
6 ,,	30 ,,
7 ,,	35 ,,
8 ,,	40 ,,
9 ,,	45 ,,
10 ,,	50 ,,

This rule was given by Haase.[1] Also working in inches we find the corresponding length by multiplying the number of lunar months by two. This result is nearly exact, but if we work in calendar months the result will be about an inch short. Thus:—

Calendar month.	Same × 2.	Length.
5	10	9 inches.*
6	12	12 ,,
7	14	15 ,,
8	16	16½-17 ,,
9	18	21 ,,

* Galabin: Manual of Midwifery, p. 93.

Hence we have the general rule that the length of the fœtus is a "lineal function of the time" nearly—that is, its length is directly proportional to its age.

Now I may ask, "Does the fœtus grow at a uniform rate in the other two dimensions of space?" I shall try to answer this in two different ways, both indirectly.

1. The fœtus from the third month onwards does not change its shape *very much* as it increases in volume. This change of shape is caused by two factors—viz., (*a*) the slower rate of growth of the head and (*b*) the faster rate of growth of the limbs relative to the trunk, for in the earlier months the head is relatively bigger and the limbs smaller than in the later months. We shall see later that these two inequalities compensate one another, so that we can find a very simple rule for deducing the volume (or at any rate a value proportional to the volume) of the fœtus at any particular month. So the approximate adherence to its original shape points to the conclusion that the fœtus increases in breadth and depth at a uniform rate with the length and therefore with time.

2. The specific gravity of the fœtus from the third month onwards does not change much. I know of no experiments made to prove this but I do not think that it does vary much. When the denser parts of the fœtus are forming, such as centres of ossification and great growth of cartilage in the later months, this is also the time when most fat is put on, and this, of course, tends to compensate and keep the density of the fœtus constant. Hence the "mass," or what is usually called the "weight," of the fœtus is directly proportional to the volume of the fœtus at any period.

Now we have the weight of the fœtus at the end of every month given us in text-books. I take the figures below from

[1] Charité-Annalen II., p. 686.

Galabin. So if we can show that the weight—and consequently the volume—of the fœtus is directly proportional to the *cube* of the length it must increase in all three directions of space at a nearly uniform rate. But as the length of the fœtus is proportional to the month of gestation, the volume will be proportional to the cube of the age of the fœtus; hence the weight will be proportional to the cube of the age. We shall now see if this latter is so: that is, we shall compare the weight with the "cube of the age." Call the months from the third onwards m. We shall see that m^3 is proportional to the weight of the fœtus at all times from the third month onwards, provided the density is constant and the fœtus increases at a uniform rate in all directions.

Month of gestation or m.	Value of m^3.	Value of $m^3/104$.	Weight of fœtus.
3	27	0·26	3 ounces.
4	64	0·61	7½ ,,
5	125	1·20	1 pound.
6	216	2·1	2 to 2·5 pounds.
7	343	3·3	3 ,, 4 ,,
8	512	4·9	4½ ,, 5 ,,
9	729	7·0	7 ,,

So we see that the cube of the age of the fœtus is very nearly proportional to the weight and that the latter can be deduced by taking the cube of the corresponding month and dividing it by a figure—104—which gives the answer in pounds, correct to within one ounce at the third month, and absolutely correct at full term.

This rule holds good from the third month onwards, that is during the period that the placenta is fully formed. It does not hold previously to the third month. So although there are certain irregularities in the rate of growth in the three dimensions and also some variation in the density at different times, yet these to a large extent cut each other out and we are left with a very simple rule for finding the weight at any particular month.

London Hospital, E.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

GENERAL INFIRMARY, LEEDS.

A CASE OF "COUNTRYMAN'S CANCER," DESCRIBING A NOVEL METHOD OF RESTORATION OF THE LOWER LIP.

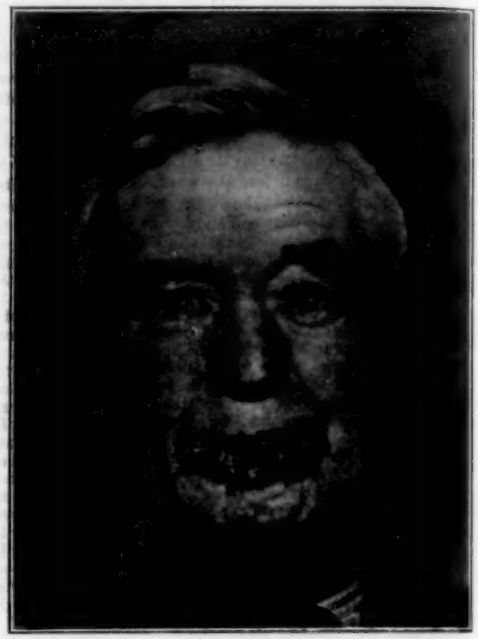
(Under the care of Mr. W. H. BROWN, M.Sc. Lond., F.R.C.S. Irel.).

FOR the notes of the case we are indebted to Mr. Harold Leach, house surgeon.

The patient, a man, aged 68 years, was admitted for a large growth situated on the lower lip, involving the whole of the red margin and extending downwards about one and a quarter inches. The edges of the growth were hard and infiltrated. There was no doubt that the condition was epitheliomatous, despite the fact that though the history was a long one no glands could be felt either under the symphysis or behind the angle of the jaw (*vide* Fig. 1). As history it was stated that the growth started seven years ago as a small ulcer on the red border of the lip. The patient had never consulted a medical man before admission.

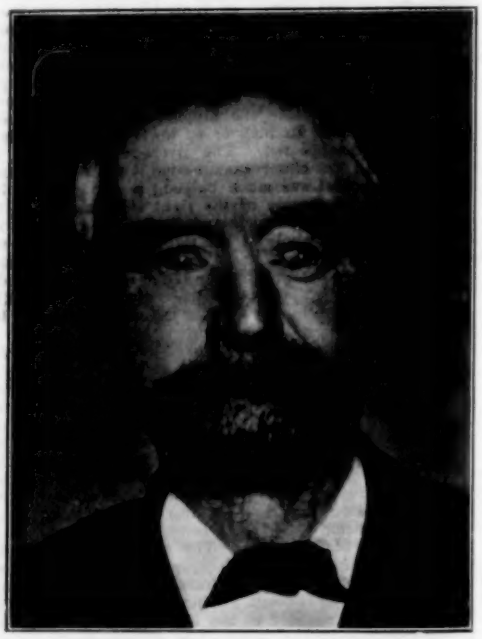
Operation.—An incision was made round the growth well clear of the edge and the mass was removed, including the whole of the red border and the tissue of the lower lip as far as the margin of the jaw. The growth was found not to have involved the periosteum. A transverse incision about six inches long was made through the tissues of the neck just above the level of the hyoid bone and this flap was freed. This flap was drawn up into the gap formed by the removal of the growth to form another lip and was sutured at either angle of the mouth; then the tissues of the

FIG. 1.



Before operation.

FIG. 2.



A fortnight after operation, the patient having allowed his beard to grow.

neck were stripped downwards for about two inches from the edge of the incision. The flap was then pulled upwards and it was found possible to suture it to the periosteum of the lower jaw. Then the edges of the incision were sutured together just as they were before the cut was made, but the line of incision was now situated just above the lower edge of the jaw instead of being at the level of the hyoid. The wound was dressed with collodion and cyanide gauze and the sutures were removed on the sixth day when it was completely healed. Fig. 2 shows the condition a fortnight after the operation.

Remarks by Mr. W. H. BROWN.—So far as I know, this simple method of restoring the lower lip after complete removal has not yet been described. It may be said: Why make an incision only to re-close it? The answer to this is that the dissection needful to free the flaps causes much bleeding and it would be impossible to ligature with accuracy vessels so far away from the edge of the wound, and much oozing after a plastic operation nearly always means failure.

ELDER COTTAGE HOSPITAL, GOVAN.

A CASE OF HERNIA OF THE VERMIFORM APPENDIX, PROBABLY INFANTILE, AND AFFECTED BY SUPPURATIVE APPENDICITIS WHILE IN THE SCROTUM.

(Under the care of Mr. J. A. C. MACEWEN.)

THE patient, a man, aged 25 years, was admitted into the Elder Cottage Hospital, Govan, in May, 1905, complaining of a swelling in the right scrotum which he first noticed a few days previously, his attention having been directed to the part by a sensation of something slowly giving way when lifting a heavy weight. On examination a firm rounded swelling of about the size of a walnut was found situated just above the testicle and connected with it. This swelling was opaque to transmitted light and was not markedly tender to pressure. The vas could not be satisfactorily isolated, as a thick cord ran up from the mass just described into the abdomen through the inguinal canal. There was no impulse on coughing. A large and rather prominent scar over the inguinal region and upper portion of the scrotum attracted attention and the patient explained that this was the scar left by an operation for rupture which he underwent when an infant. As the condition was causing the patient trouble and unfitting him for work operation was decided on.

Operation.—An incision as for the radical cure of hernia was made and the parts were exposed. The mass which had been felt on examination was found to consist of matted omentum, and when this was opened out the vermiform appendix was found within it. The appendix extended from the internal ring to the testicle; it was curled on itself toward the tip and was firmly adherent at this part to the upper portion of the testicle. This adhesion to the testicle was dense and avascular, necessitating cutting to effect a separation, and obviously was of long standing. The appendix having been freed from its adhesions to the testicle was next freed from some slighter adhesions to the inguinal canal, and then on applying gentle traction and using the finger as a hook the lower end of the cæcum came into view. Appendectomy was then performed and the stump was umbilicated by a circular suture, after which the bowel was returned within the abdomen. Having removed the protruding portion of matted omentum the operation was completed by performing the final stage of the radical cure for hernia (Macewen's operation)—a mattress suture was passed through the conjoined tendon and its free ends were passed through Poupart's ligament, so that by tightening and tying the ends together the conjoined tendon was pulled down behind Poupart's ligament and thus obliterated the canal. The patient made an uninterrupted recovery, the wound healing aseptically under a single strip of gauze painted over with celloidin and was allowed up six weeks after operation. He resumed work about a couple of months later and is now (January, 1906, seven months later) regularly at work without any recurrence of the hernia.

Remarks by Mr. MACEWEN.—Judging from what was found at the operation it would appear that the appendix in this case had long occupied the inguinal canal and had probably become attached to the testicle long previously as the result of some inflammatory process. The absence of any definable hernial sac also would be accounted for by an old inflammatory process. The recent sensation of something slowly giving way and the subsequent swelling I attribute to the slipping down into the scrotum of a small portion of omentum.

Being interested in the condition found and having ascertained the ward in the Western Infirmary, Glasgow, in which the patient had been treated when an infant some 23 years previously, I turned up the old journals of that institution and found that he had been operated on for hernia when 20 months old. According to the history there given the patient had a swelling in the groin from the time he was ten months old. A truss was then worn until the week of admission to hospital, when it was discarded as the swelling became large and painful and descended into the scrotum. The swelling increased in size until on admission it was found to be pear-shaped, extending above to the inguinal canal, while the lower portion in the scrotum was hot, red, and painful. There was impulse on coughing but taxis was not successful. The scrotum was laid open when pus flowed out from the tunica vaginalis, after which the bowel was returned "with a slip and gurgle" and the pillars were brought together by a silver stitch which was removed later. Free drainage was provided and frequent lavage was performed.

From the description given in these old notes it appears probable that the patient had a hernia of the appendix from a very early age (which conclusion, as already mentioned, is strengthened by the condition found when operating recently). When 20 months old, however, a suppurative appendicitis occurred, with abscess formation in the scrotum. This abscess was opened by the incision into the tunica vaginalis; the bowel was returned to the abdomen, while the appendix, left to drain through the open wound, gradually healed up, and contracted the adhesion to the testicle mentioned in the description of the recent operation. This same suppurative process, occurring 23 years previously, would account for the absence of any definite hernial sac.

Medical Societies.

CLINICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on Jan. 26th, Mr. H. H. CLUTTON, the President, being in the chair.

Dr. H. D. ROLLESTON exhibited a case of Multiple Lipomata (Adeno-lipomatosis). The patient was a man, aged 43 years, and he had noticed the fatty tumours in the neck for about four years. The tumours were present on the neck, upper arms, and trunk, being for the most part symmetrically situated; there were none on the legs or forearms. Pain did not precede their appearance, as was the case in adiposis dolorosa. No enlarged glands were found and there were no scars from tuberculous glands. There was no loss of muscular power and the knee-jerks were normal. He had had painful swellings of the joints which did not yield to salicylates or to colchicum and he had had several attacks of peliosis rheumatica.—The PRESIDENT remarked on the importance from a surgical point of view of the question whether these fatty tumours were encapsulated or diffuse.—Mr. W. G. SPENCER discussed the pathology and, drawing attention to the local vascularity and the concurrent local fat formation which occurred in these tumours, asked which was the primary or causal agent of these two conditions.—Dr. ROLLESTON referred to the resemblance of this disease in men to adiposis dolorosa in women. The tumours were encapsulated at the outset and afterwards diffuse. The pathology was obscure, but the tendency to hæmorrhage suggested vascular degeneration; both this and the resulting adiposis might be the result of alcohol.

Mr. J. R. LUNN exhibited a case of General Paralysis of the Insane (?) in a boy, aged 16 years. The patient was one of eight children and the mother stated that he was always untrustworthy with money and prone to steal. He had had three fits of unconsciousness in 1905, since which time he had become duller in intellect and had had occasional twitchings of the left arm and leg. When walking the left arm was flexed and he dragged his left leg, and there was some weakness of the muscles elevating the mouth. The speech was affected but there were no tremors. The left pupil was larger than the right. There was no history of syphilis.

Mr. LUNN also exhibited a case of Myasthenia Gravis (?). There was a generalised weakness of all the muscles, including those of the face, with partial ptosis on both sides; the knee-jerks and plantar reflex were absent, and difficulty in talking and in swallowing was present. To obtain the faradic reaction required a strong current.—Dr. E. FARQUHAR BUZZARD said that apart from the muscular atrophy, this case would be called an undoubted one of myasthenia gravis and he could think of no other category into which to place it. Recently muscular atrophy had been described in several undoubted cases.

Mr. LUNN also exhibited a case of Molluscum Fibrosum in a man, aged 22 years, who had first noticed small subepidermic tumours 18 months previously. Numerous tumours varying in size from that of a millet-seed to that of a cherry were present all over the trunk; they were mostly sessile but a few were pedunculated. Microscopic examination of the tumours showed that they consisted of fibrous tissue, blood vessels, and nerves. Arsenic and thyroid tablets had been given without result.

Mr. LAWRIE H. MCGAVIN showed a case of Laminectomy for Traumatic Paraplegia in a man, aged 36 years, who had had a severe injury to the back over the first lumbar vertebra. On admission to the Seamen's Hospital in October, 1905, there was complete loss of both motion and sensation of the legs with loss of knee-jerks and plantar reflexes and incontinence of both urine and fæces. At the operation the arches of the first and second lumbar vertebræ were found to be fractured and depressed so as to compress and injure the nerve structures beneath. Sensation was restored in 24 hours in the right leg and later in the left. In three weeks the functions of the bladder and rectum were restored and the power of movement gradually returned, so that the patient was now able to walk without assistance. The knee-jerks were still feeble and the plantar reflexes absent.—The PRESIDENT remarked that it was interesting to note that the patient should have recovered after an absence of knee-jerks which, together with an absence of plantar reflexes, was regarded in such circumstances as a contra-indication to operation.—Dr. C. E. BEEVOR remarked that absence of knee-jerks was a serious sign when the injury was high up in the cord as it indicated that the anterior horns were damaged. But in the present case the injury was evidently over the cauda equina and the damage to the third and fourth lumbar nerve-roots would account for the loss of knee-jerks and the other symptoms.

Mr. JAMES BERRY showed a case of Congenital Aperture in the Centre of the Palate. The patient was a girl, aged 16 years, in whom there existed in the middle line of the hard palate an oval aperture of congenital origin. The uvula and the posterior edge of the soft palate were congenitally cleft. There was no syphilitic history.—The PRESIDENT asked whether there was any disseminated choroiditis or other evidence of syphilis.—Dr. W. ESSEX WYNTER remarked that the bifid uvula was in favour of congenital origin as distinct from a syphilitic lesion.

Dr. C. H. THOMPSON exhibited a case of Shaking Head or Spasmus Nutans in a female infant, aged six months, in whom movements of the head and eyes had been noticed since the age of five months. The nodding movements of the head were continuous excepting during sleep or when the eyes were bandaged. In cases previously recorded nystagmus had not been observed as in this case.

Dr. J. WALTER CARR showed a case of Amyotrophic Lateral Sclerosis in a male patient, aged 33 years. The illness had commenced four years previously with weakness and wasting of the right hand, the right leg having become stiff and weak two and a half years previously. There was at present well-marked spastic paraplegia with Babinski's sign. The arms showed distinct flaccid paralysis affecting mainly the small muscles of the hands and to a lesser degree some of the shoulder muscles. Fibrillary twitchings were present; there was no affection of sensation.

Dr. W. P. HERRINGHAM showed a case of Transverse Myelitis with Recovery in a man, aged 29 years. Nine days before admission to St. Bartholomew's Hospital (April 21st, 1905) pains in the legs and back supervened, the arms became weak, and he lost control of his sphincters. This was followed by loss of power and anæsthesia in the legs. On admission there was paralysis of the intercostals, diaphragm, and legs, and weakness of the arms. The anæsthesia of the legs soon spread upwards to the level of the nipples. His condition gradually improved until at the end of nine months he was able to walk about unaided. His knee-jerks, which were absent for six months, had now returned.—Dr. BEEVOR commented on the persistent paralysis of the diaphragm and asked how it was possible for the patient to breathe. It would indicate a lesion as high as the level of the fourth cervical vertebra. It was a question whether the case was not one of peripheral neuritis of all four limbs.

Dr. HERRINGHAM also exhibited a case of Addison's Disease in a male patient, aged 25 years.

Mr. P. MAYNARD HEATH exhibited a case of Charcot's Disease of the Left Thumb-joint in a man, aged 45 years. The swelling was most marked over the inter-phalangeal articulation and this joint was disorganised. There were well-marked signs of tabes. Mr. Heath referred to some statistics which he had collected. Out of 233 cases of Charcot's joint disease the knee-joint was involved in 43 per cent. and the fingers and toes in only 17 per cent.

Dr. BERTRAM L. ABRAHAMS exhibited a case of Sudden Paralysis of the Third Cranial Nerve in a married woman, aged 47 years. There was a typical condition of paralysis of the left third nerve with crossed diplopia; the other cranial nerves and the rest of the nervous system were natural. The palsy was interesting as being in a very early stage before over-action of the external rectus muscle and dilator fibres of the iris had been developed. The origin was probably syphilitic as the patient's husband had had a skin disease and loss of hair two and a half years previously.

Mr. RUPERT T. H. BUCKNALL exhibited a case of Bilateral Deformity of the Neck of the Femur. The patient was a boy, aged nine years, who had always had a difficulty in walking which had increased as he had grown older. There was marked adduction of the thighs in walking and running was impossible. Skiagrams showed marked bending of the neck of the femur downwards.

Mr. T. H. KELLOCK exhibited a case of Osteo-Sarcoma of the Frontal Bone in a man, aged 23 years. Between six and seven years ago a small hard swelling was first noticed on the left side of the forehead; this had gradually increased until it had become a large tumour 18½ inches in circumference and rising four inches above the level of the left half of the frontal bone. The left eyeball was displaced downwards and forwards. The patient's general health was good and he had followed his occupation, that of a tailor, up to the present time.—In reply to the PRESIDENT, Mr. KELLOCK said that a microscopic examination had revealed the presence of sarcoma and that the want of symmetry in the lesion was against leontiasis ossea.

Dr. H. T. MANT and Dr. H. BATTY SHAW exhibited a case of Chronic Tetany cured by thyroid treatment occurring in a child, aged nine years. For the last eighteen months she had been unable to walk because of weakness of the lower extremities and during this period the abdomen had become much distended. She had suffered from repeated attacks of tetany during the last seven months and had become very pale, the blood examination showing severe anæmia. She was somewhat puffy in the face and a firm œdema had been present in the feet and hands. The knee-jerks had been lost on a previous occasion but these had returned and the tetany had disappeared under treatment in hospital with salol. The same treatment had now failed and the knee-jerks were still absent. The attacks of tetany had disappeared immediately after the use of thyroid substance and though this remedy had been given for a week only attacks had not recurred. The treatment had been lately resumed in order to get rid of pains in the feet which occurred in walking or standing. The points of interest in the case were: (1) The long period (seven months) during which the attacks of tetany had been frequently reported; (2) the association with marked gastro-intestinal disorder and distension of the alimentary tract; (3) the failure of the antiseptic treatment of the bowel, though on a former occasion it appeared to be successful; and (4) the apparent prompt response to thyroid treatment.—The PRESIDENT said that the case could hardly be regarded as cured at the present time; such cases should be operated on.—Dr. A. E. GARROD referred to a similar case brought before the society on Nov. 24th, 1905, by himself and Dr. F. E. Langmead[1] in which after death the sigmoid flexure was found to be greatly hypertrophied. The patient had been repeatedly admitted for tetany which in most instances was promptly relieved by lavage.

Mr. HUGH M. RIGBY exhibited: 1. A case of Plexiform Angioma of the Hand and Arm of apparently congenital

[1] THE LANCET, Dec. 2nd, 1905, p. 1621.

origin in a female child, aged 13 months. The left brachial and radial arteries were dilated and tortuous and the palm of the hand was occupied by a pulsating vascular tumour. The third part of the left subclavian artery had been ligatured in February, 1905, but without success. 2. A case of Cavernous Nævus of the Tongue, also of congenital origin, in a girl, aged 11 years. In July, 1904, the right lingual artery and veins were ligatured and the tumour apparently completely dissected out, but the present condition showed a gradually increasing recurrence.

Dr. BEEVOR exhibited a case of Perforating Ulcers of the Feet and joint lesions associated with only slight sensory changes, probably due to syringomyelia. The patient was a man, aged 38 years. The symptoms referred to had commenced about three years before. Three pieces of dead bone had separated on various occasions, one of which was the distal end of the terminal phalanx of the big toe. The question of the case being very early locomotor ataxy was considered, but the knee-jerks were increased and there were no other symptoms of that disease. Extraordinary symptoms might be met with in syringomyelia.

ABERDEEN UNIVERSITY MEDICAL SOCIETY.—A meeting of this society was held on Jan. 13th, Professor J. T. Cash being in the chair.—Sir Patrick Manson delivered an address on Some Recent Researches in Tropical Pathology. Regarding yellow fever, he said that Dr Reed of the United States Commission had shown that the bacillus icteroides of Sanarelli had no causal relation to the disease. Dr. Reed was, however, struck by the fact that while the incubation period of the fever was three days that of the epidemic was 15 days. Following up this clue and finding that fomites were ineffectual in transmitting the disease he fixed on the mosquito, stegomyia fasciata, as the culprit. Mosquitoes fed on a patient during the first three days of the fever transmitted the disease after a lapse of 12 days; those fed on the fourth, fifth, or subsequent days did not transmit it. His discovery had led to the stamping out of yellow fever in Havana. Yellow fever might easily become an Asiatic disease once the Panama Canal was completed if the United States Government did not take steps to prevent its spreading. The result of Dr. Reed's discovery had been of inestimable benefit to mankind and to commerce. Sir Patrick Manson then referred to ankylostoma duodenale, an entozoon which caused a severe anæmia that was very common in many countries. It did not reach the intestine by means of drinking water, as had been supposed. By experimenting on dogs, which suffered from a similar ankylostoma, and by observation of the papulo-pustular skin eruption of Assam coolies (commonly called "coolie itch"), it had been shown that the parasite entered by the skin. The ova were passed in the fæces and getting into suitable soil were thus conveyed to the skin, whence the blood carried them to the lungs. Thence they climbed into the trachea and being swallowed reached the œsophagus and the intestine. Isolated cases occurred in this country among people who had lived abroad. He referred to such a case which had been given up as a hopeless case of pernicious anæmia but examination of the blood revealed a marked eosinophilia (40 per cent.) —an invariable indication of the presence of an animal parasite. In a Cornish mine which was deep enough to reproduce the tropical conditions of heat and moisture there had been an outbreak of anæmia due to this parasite. The recognition of the disease was the chief thing; its treatment was very simple and effective, a few doses of thymol and eucalyptus oil serving to get rid of at least the bulk of the parasites. Sir Patrick Manson then spoke upon trypanosomial diseases. He said that Dr. Dutton had seen a trypanosoma in the blood of a white man in West Africa who was suffering from an obscure fever and he subsequently found it in the blood of natives. In African sleeping sickness the blood also contained a trypanosoma; there was a period during which the brain and spinal cord were unaffected; when they were involved the distinctive lesion was a meningo-encephalitis characterised by a dense perivascular infiltration by leucocytes. How this arose was still unknown. Bruce, in studying nagana of cattle, had found that a species of the tsetse fly transmitted the disease. Search among the tsetse flies of the districts affected by sleeping sickness had led to the discovery that the fly which infected human beings was the glossina palpalis. "Leishman bodies," which resembled a curled-up trypanosoma without a flagellum, were first discovered in the blood of the rat and then in the spleen of a man the subject of a peculiar fever. In many cases originally put down to malaria they occurred in the spleen, liver, and bone marrow so profusely as even to exceed in weight the weight of the viscera involved. Oriental sore was a localised skin lesion associated with the occurrence of Leishman bodies, but it healed in a few months, and it was a peculiar fact that the subjects of oriental sore were immune from the visceral disease. Regarding the guinea-worm, he said that it had been recently shown that the cyclops, its intermediate host, gained access to the system by drinking-water and was killed by the gastric juice, which at the same time stimulated the contained guinea-worms to activity. Sir Patrick Manson also referred to the spirochæte of relapsing fever and to the oval bodies like coccidia discovered by Dr. John Catto of Aberdeen and now considered to be the ova of a new species of bilharzia.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—A meeting of this society was held on Jan. 19th, Dr. J. Porter Parkinson being in the chair.—Mr. Arthur Edmunds showed a case of Cutaneous Pigmentation in which there was on the buttocks and back a curious bluish mottling similar to the pigmentation which occurs in a large number of Asiatic races of mixed descent. The pigmentation resembled that shown in a Japanese baby recently exhibited at the society by Dr. G. A. Sutherland. Some held that this pigmentation was an evidence of a negroid ancestor, while others, especially the Japanese, held that it was merely a racial characteristic. In the present instance there was no history of any negroid ancestry.—Dr. George Carpenter showed a case of Sclerema Neonatorum occurring in a girl aged eight weeks. The infant was born in a state of asphyxia but recovered with artificial respiration. There was a brawny induration of a pinkish purple hue over the whole of the back and the back of the neck, also over the buttocks and upper part of the thighs posteriorly; also there were two small patches over the occipital region of the scalp.—Dr. Parkinson showed microscopical specimens from a case of Sclerema Neonatorum taken from an eight months' infant who died when ten days old. The sections of the skin showed chiefly thinning of the epidermis with considerable thickening of the cutis vera apparently due to increase of fibrous tissue, but this seemed insufficient to account for the sclerema which he suggested was due to a chemical rather than to a structural change. —Dr. Leonard G. Guthrie showed a case of Lipomatosis. The case was that of a child who was very fat although neither the weight nor the height was abnormal. The discrepancy between the weight and the appearance was probably due to lightness of the skeleton.—Dr. C. O Hawthorne showed (1) two children suffering from Mental Defect and Optic Nerve Atrophy and (2) a boy aged seven years who had almost completely recovered from an Infantile Hemiplegia which followed a convulsive seizure at two years of age.—Dr. Carpenter and Mr. J. P. Lockhart Mummery showed a case of Hemihypertrophy in a child aged two and a half years, the left side being larger than the right. The face and tongue on the affected side were appreciably larger and the head was half an inch broader. The left side of the trunk was one inch larger than the right, the left arm was half an inch longer, and the left leg was one inch longer and correspondingly enlarged. The bones on the hypertrophied side were also larger.—Dr. Carpenter and Dr Theodore Fisher communicated notes of a case of Fatal Dilatation of the Heart occurring in a boy aged eight years. The necropsy showed that there was no adhesion of the pericardium, neither was there any valvular disease. Apparently the boy had suffered from symptoms indicating cardiac failure for about a year, but the only history of rheumatism related to an attack four months before admission to hospital. After death the heart was found to be not only dilated but hypertrophied. It weighed ten and a half ounces. Microscopically there was considerable fatty degeneration of the cardiac muscle but this probably was a comparatively recent pathological change.—Mr. Edmunds showed a case in which a Congenital Tumour of the Sacrum had been successfully removed.—Dr. J. G. Emanuel showed an infant with Congenital Absence of the Epidermis of the Hands, Legs, and Feet. In addition, over the temples, the bridge of the nose, and the middle of the lumbar region there were irregular-shaped areas in which a similar congenital deficiency in the formation of the epidermis existed. The parts affected were smooth, free from hair, sharply defined

from the neighbouring healthy skin, and transparent, so that the delicate underlying blood-vessels were clearly visible. The infant was born dead at full term. Microscopical examination of sections showed that the defect consisted of a complete arrest of development of all layers of the epidermis, including its associated glands and hairs. The cutis vera was unaffected except, of course, in so far as it lacked hair follicles and sweat and sebaceous glands.

CORK MEDICAL AND SURGICAL SOCIETY.—A meeting of this society was held on Jan. 24th, Dr. C. Y. Pearson being in the chair.—Dr. W. E. A. Cummins showed a Cystic Tumour removed from a married woman two months after the birth of her second child. She had noticed it at the age of 14 years; it gradually increased and when she was admitted to hospital it was found to extend from the right iliac region to the under surface of the liver and well to the left side of the middle line. He diagnosed a cyst of the broad ligament on the right side and opened the abdomen by a median incision, finding transverse vessels, evidently renal, running into the tumour. These he ligatured and had no trouble in removing the growth, which was intimately united to the kidney. The latter was also ablated. He packed the huge cavity with gauze and the patient made an uneventful recovery.—Dr. A. E. Moore reported on the specimen, which he considered due to an error of development—namely, to persistence of a portion of the Wolffian body. In this case the capsule was split to inclose the kidney. He demonstrated the normal ureter, thus excluding the existence of hydronephrosis.—Dr. Pearson said that it was a unique case and agreed with Dr. Moore's theory of the origin of the tumour; he questioned the necessity for ablating the kidney but thought that he would have done the same in like circumstances.—Dr. Pearson showed a specimen of Tuberculous Kidney and Ureter removed from a woman with a history of pyuria. The cystoscope showed no cystitis. Luys' segregator was used and the healthy urine was found to show a daily excretion of 300 grains of urea, an amount which he considered satisfactory. In operating he made the usual "Kelly" incision. He found considerable enlargement of the kidney with evidence of much perinephritis and great thickening of the ureter, which latter he clamped and ligatured as low down as possible. The renal vessels he clamped, leaving the forceps *in situ* for a couple of days. Post-operative vomiting, as usual in these cases, was very troublesome. He thought that the invasion of the kidney was primary in this case.

ROYAL ACADEMY OF MEDICINE IN IRELAND: SECTION OF SURGERY.—A meeting of this section was held on Jan. 12th, Sir Arthur Chance, the President, being in the chair.—Mr. R. Charles B. Maunsell read a paper entitled "Remarks on Gastro-enterostomy, with description of a New Clamp." He advocated operation in gastroptosis and atonic gastritis in addition to the more commonly recognised indications. He considered that there should be no fixed rule for the site or form of incision in the abdominal wall or for the site of junction of the viscera, as the first would depend upon the amount of ptosis present, often lying partly below the level of the umbilicus on the left side, the junction of the viscera being made near the pyloric antrum or at the most dependent portion of the stomach, according to the amount of muscular power present in the stomach walls. A new form of clamp was described and shown; it was made somewhat on the principles of Carwardine's intestinal clamp and held the parts neatly in position during the operation.—The President expressed himself in favour of clamps and recognised the advantages of those designed by Mr. Maunsell.—Mr. A. J. M. Blayney said that he was not in favour of clamps as he considered that their use increased the risk of post-operative hæmorrhage. He had not known of any case in which dispensing with clamps had led to any untoward result through escape of stomach contents or prolongation of the operation.—Mr. G. Jameson Johnston said that he was in favour of clamps and had not noted hæmorrhage in any of his cases.—Mr. William Taylor read a paper on Partial Gastrectomy for Pyloric Tumour. The patient, a woman aged 60 years, was exhibited in perfect health, free from stomach trouble of any description, and able to eat anything and everything without the slightest discomfort. The history dated back for three years, during two and three-quarter years of which she complained of ill-defined stomach trouble, to which she applied the term "weakness." During the last three months of this period she was never free from pain but food greatly aggravated it. At times it was so severe as to compel her to press her stomach across the back of a chair or the edge of a table; at other times she rolled upon the floor in agony. A tumour afterwards formed which increased very rapidly in size and it was on account of this tumour and the severe pain and vomiting that she sought admission to hospital. On examination the tumour was found to be situated a little above, and to the right of, the umbilicus; it was hard, nodular, and firmly fixed to the anterior abdominal wall. There was no tenderness. The stomach was moderately dilated. The patient herself was greatly emaciated. Examination of the gastric juice showed a complete absence of free hydrochloric acid. The diagnosis of malignant disease was made. Exploratory laparotomy was performed, when it was discovered that by excising the portion of the abdominal wall to which the tumour was adherent the growth could easily be brought outside. This was accordingly done, and as the tumour presented all the naked-eye appearances of malignancy a partial gastrectomy was performed. The cut ends of the stomach were sewn up with two rows of silk sutures. The duodenum was freed by dividing the peritoneum over the right kidney and fixed by two rows of suture into the opening made into the posterior wall of the stomach, about one inch beyond the line of section. The entire operation occupied exactly 70 minutes and the shock was very slight. Recovery was rapid and uninterrupted and the patient left for the convalescent home on the twenty-third day after the operation. Examination of the gastric juice on that day (Jan. 12th), seven months after the operation, showed that there was not a trace of free hydrochloric acid, or, indeed, of any other free acid to be found. The pathological report described the tumour as apparently a mass of inflammatory material deposited around an old-standing ulcer.

BRISTOL MEDICO CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 10th, Mr. John Dacre being in the chair.—Mr. Harold F. Mole gave a demonstration on the anatomy and surgical anatomy of the temporal bone illustrated by a large number of lantern slides, stereograms, and specimens. The latter consisted of preparations of the bone and metal corrosion casts of the same. Great stress was laid on the importance of surgeons operating on the ear having an accurate knowledge of important structures in relation with it and the specimens were specially prepared to show these relationships. One series of bones showed the various steps in the complete mastoid operation; another series, after the radical mastoid operation had been performed, were sectioned in various planes to show the relation of the facial canal to the operation area; a third were sectioned to show the relation of the lateral sinus to the antrum; another to show the depth of the antrum from the surface and the value of Henle's spine and the suprameatal triangle as a guide to the antrum, &c. The corrosion casts showed the intimate connexion of the tympanic cavity with the cells of the mastoid process and those outside it and above the external auditory meatus. Some of them showed a mass of cells at the apex of the petrous bone not usually described in text-books of anatomy.—Dr. P. Watson Williams and Dr. J. Lucy Firth congratulated Mr. Mole on the preparations.—Dr. Watson Williams read a paper entitled "Why Defective Nasal Respiration Impedes Growth and Development," emphasising the view that defective nasal breathing was not always due to, or in direct proportion, to the degree of nasal obstruction. Normal nasal breathing stimulated the bulbar respiratory centre and the abrogation of this physiological stimulation was one important factor resulting in deficient respiratory exchanges and consequent defective tissue metabolism. Hence the mechanical obstruction to respiration was by no means the only indication for appropriate treatment.—Dr. R. Shingleton Smith, Dr. E. C. Williams, Dr. A. J. Harrison, and Mr. Mole took part in a discussion on the paper, agreeing with Dr. Watson Williams on the importance of removing nasal obstructions in childhood and that the nasal obstruction was not always due to adenoids.—Dr. H. G. Kyle read notes of a case of Hydatid Cyst of the Liver occurring in a woman, aged 25 years. The tumour had attained very large dimensions, displacing the heart upwards, so that the maximum impulse was in the third left space, the lower limit of the tumour being about on the level of the umbilicus. It grew in the left lobe of the liver. It was treated by incision, removal of the hydatid membrane, and drainage. The patient made a good recovery. Dr. Kyle discussed the propriety of attempting

complete enucleation of such tumours and cited some cases so treated from the literature. The proceeding was certainly attended with considerably more risk, and incision and drainage appeared the safer method though it involved tedious convalescence.—Mr. Mole thought that it was running unnecessary risk to endeavour to excise these cysts from the liver, incision and drainage usually being followed by a satisfactory result.—Dr. J. R. Charles read a paper on Fright in its Relation to Disease. After having described the physiological effects of fright, the analogies between fright and cold as exciting factors in disease were mentioned. Stress was laid on the importance of the avoidance of fright in certain conditions, specially during childhood. Its connexion with such diseases as chorea, hysteria, paralysis agitans, the paroxysmal neuroses, Graves's disease, and the infective and other diseases was discussed. Numerous illustrative cases were quoted.—Dr. J. A. Nixon, Dr. J. O. Symes, Dr. W. S. V. Stock, Dr. Williams, Dr. Shingleton Smith, and Dr. Harrison related cases bearing on the paper.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 16th, Mr. William Handcock, the President, being in the chair.—Dr. H. J. Campbell showed a case of Hereditary Ataxy of the Cerebellar Type. The patient was a man, aged 41 years, in whom the symptoms had developed during the last six months. The eye symptoms were not well marked. There was general ataxy and the knee-jerks were increased. There was no history of heredity, but on the whole Dr. Campbell thought that the case fitted in better with hereditary cerebellar ataxy than with any other disease.—Mr. J. B. Hall read a paper on some Renal Cases illustrating the Value of the Urinary Segregator as a Means of Diagnosis. He said that the want of some means whereby the excretion from each kidney could be separately collected and examined was recognised many years ago and such a want was for a considerable time a great hindrance to the development of renal surgery. Even so recently as the year 1904 a surgeon of repute told Mr. Hall that he had a few days before excised the wrong kidney with a fatal result. A correct estimate of the condition of both organs was therefore of enormous importance in renal operations. Cystoscopy and catheterisation of the ureters were hardly available for general use, as they required very highly specialised skill. During the past three years, however, an instrument known as the urinary segregator had been perfected and its use had been attended with the greatest success. The fundamental idea of the two types of this instrument at present in use was the same—namely, the formation of two separate channels along the floor of the bladder through which the urine from each ureter could flow and be separately collected by means of a double catheter. This partitioning of the bladder floor into two separate channels was effected in one of two ways. In the American instrument known as Harris's segregator a lever was introduced into the rectum or vagina and by its pressure on the bladder floor a median ridge was raised along the trigone which effectually divided the bladder into a right and a left compartment, through which the urine ran from the respective ureters. In the French type of instrument the principle was different. The instrument was curved in such a way as to fit snugly along the floor of the bladder when it had been introduced. By turning a screw in the handle an indiarubber curtain was made to rise up and bridge across the concavity of the curve of the instrument, thus forming a partition which divided the bladder into two separate halves. Before using the instrument the bladder must be washed out in order to obtain specimens of urine uncontaminated with any mixed sample present in the bladder at the time of examination. In many cases, however, such information as was required might be obtained without this preliminary. Mr. Hall then read notes of six cases in which the instrument had been of the greatest benefit. He had always found it thoroughly trustworthy; he questioned whether such perfect separation could be obtained as absolutely to exclude minute contamination of urinary specimens obtained from each kidney but this had little, if any, practical significance.—Dr. W. E. Heilborn read notes of a case of Intestinal Obstruction caused by a Gall-stone with spontaneous recovery. The patient was a woman, aged 64 years, with no history of any previous attacks of gall-stone colic or jaundice. When first seen there had been absolute obstruction for four days, continuous vomiting, dry brown tongue, a pulse-rate of 120, and a distended abdomen. Operation was refused. After four enemata she passed a gall-stone of the size of a large pigeon's egg. Recovery was rapid and complete.

HARVEIAN SOCIETY.—A clinical meeting of this society was held on Jan. 25th.—Dr. Alexander Morison showed a case of Endocarditis in a Child associated with Chorea.—Dr. L. G. Guthrie showed a case of Gumma Cerebri. The patient, a man, aged 29 years, was admitted to hospital on Oct. 24th, 1905, with right-sided hemi-paresis and double optic neuritis. Seven years previously he contracted syphilis, for which he was under treatment for three months. There were no obvious secondary symptoms but his health had never been good since. He complained of "general deterioration, mental and physical." 15 months previously he noticed gradual weakness of the right arm and leg which increased until he had to give up employment owing to inability to write or to hold his pen properly. There had been slight headaches at times but no vomiting. After admission the optic neuritis and contraction of the visual fields increased. On Nov. 3rd a slight epileptiform seizure occurred with general convulsions and loss of consciousness but no focal commencement; its duration was about ten minutes. On the 8th he had two more attacks in which he became dazed and stupid but without loss of consciousness. He had had no fits before or since. He was treated by iodides which were pushed, until by mid-December he was taking 50 grains of mixed iodides thrice daily. The swelling of the left disc then began to subside, that on the right remaining *in statu quo*. He had slight iodism, soreness of the eyelids, and a few spots. The iodides were then gradually reduced to 24 grains of mixed salts thrice daily. The patient had improved in general health and had gained weight. The hand movements had become less ataxic under treatment by exercises. He could now write fairly well though slowly. The gait was less spastic. The diagnosis was gumma, probably supracortical, in the mid-area of the left cerebral hemisphere.—Dr. Squire showed a case of Leontiasis Ossea in a woman, aged 29 years. There had been proptosis and deformity of the forehead from birth. Blindness of the right eye was first noticed at the age of nine years. The forehead was large and there was a marked bony protuberance at the site of the anterior fontanelle. The nasal bones were thickened and the septum was deflected.—Dr. Guthrie suggested that the malformation was a congenital deformity due to premature synostosis of certain cranial sutures rather than one caused by leontiasis ossea.—Dr. E. Cantley agreed with Dr. Guthrie that the case was one of "tower shaped" skull due to congenital malformation.—Other cases were shown by Mr. T. Crisp English, Mr. E. Laming Evans, and Dr. J. F. H. Broadbent.

A NEW ASYLUM FOR IDIOTS.—At the meeting of the Gloucester city council held on Jan. 24th it was decided to unite with the Gloucestershire county council and other local authorities in leasing and adapting Sandwell Hall, Birmingham, as an asylum for idiot and imbecile children, the city and county together to acquire 20 beds.

INSTITUTE OF CHEMISTRY OF GREAT BRITAIN AND IRELAND.—The following is the pass list of the examinations held in January:—Of 14 candidates who entered for the intermediate examination, ten passed: A. P. Davson, F. W. Foreman, W. Garsed, T. R. Hodgson, B.A. Cantab., T. J. Kirkland, A. Lathwood, B.Sc. Lond., B. D. W. Luff, J. F. Reid, H. Stanley, B.Sc. Lond., and F. Tattersfield. In the final examination for the Associateship (A.I.C.), of five examined in the branch of mineral chemistry, two passed: E. R. Bullock, Assoc. R.C.Sc. Lond., and T. F. Cowie; of four in metallurgical chemistry, two passed: H. J. B. Rawlins, B.Sc. Lond., and Thomas Stenhouse, B.Sc. Lond., Assoc. R.C.Sc. Lond., A.R.S.M.; of four in organic chemistry, three passed: W. P. Hayworth, F. H. G. Horsman, B.Sc. Lond., and D. Spence, Ph.D. Jena; and one of 12 who entered in the branch of the analysis of food and drugs and of water, including an examination in therapeutics, pharmacology, and microscopy, the following nine passed: J. T. Cart, B.Sc. Lond., C. G. Gates, B.Sc. Lond., A. G. Holborow, Miss E. S. Hooper, B.Sc. Lond., S. J. Lewis, B.Sc. Lond., A. J. C. Lickorish, S. G. Liversedge, Miss E. A. Macadam, and F. E. Thompson, Assoc. R.C.Sc. Lond.

Reviews and Notices of Books.

The Medical Epitome Series. Edited by V. C. PEDERSEN, A.M., M.D., Instructor in Surgery at the New York Polyclinic Medical School and Hospital; Genito-Urinary Surgeon to the Out-Patient Department of the New York Hospital; Physician-in-Charge of St. Chrysostom's Dispensary, &c. 16 vols. London: Hodder and Stoughton. Price 4s. each.

Messrs. Hodder and Stoughton have issued a series of 16 volumes known as "The Medical Epitome Series" under the editorship of Dr. V. C. Pedersen. The volumes deal with most of the departments of medical teaching.

In arranging for the editorship of the series the publishers established the following condition—namely, that the series, as a whole, should embrace the entire realm of medicine; that the individual volumes should authoritatively cover their respective subjects in all essentials; and that the maximum amount of information, in letterpress and engraving, should be given for a minimum price. The volumes are well edited and are very creditable to the publishers as books. When we turn to the subject-matter in each volume, while we admit the evident care with which each is written, we cannot help feeling that the compression which has been necessitated in order to carry out the idea of uniformity in the series goes some way to lessen the value of many of the books. The question naturally arises as to what class of student or medical man would be content with such manuals and we are forced to admit that we think it would not be a high one.

The volumes may be divided into two classes—those which treat of purely clinical subjects and those which deal with the earlier subjects in a medical curriculum. It appears to us that the manuals for younger students are more valuable than those intended for the more advanced ones. For instance, if we take the volume on Surgery, which is said to be "a manual for students and practitioners," we find that the joint authors attempt to deal with the subject in a small book of 295 pages. The authors are brave men. After a careful study of the volume we admit that the subject-matter is excellent so far as it goes and that the illustrations are beyond praise, and yet we do not know the kind of professional man to whom such a work would permanently appeal or who would be satisfied with it. The book is too much advanced to be regarded as a book on first aid; it is not intended to be a work on minor surgery, for the graver surgical conditions are many of them rather fully considered; for instance, to such a disease as appendicitis five pages out of the small sum-total are devoted; and yet no student or practitioner could possibly be satisfied to make this work his text-book of surgery, for many conditions are merely touched upon; the novice would not understand—he cannot read between the lines, the qualified man requires many more details. It appears to us that the only man to whom the book could really be useful is one who wants to take a general survey of his surgical work during the last few days before an examination for one of the minor surgical qualifications.

In the volume on Obstetrics the information is sound as far as it goes and the illustrations of the application of the forceps are particularly good. The authors of the volume on the Diseases of the Eye and Ear make no reference to auditory or aural vertigo under the name of Ménière's disease, though vertigo is alluded to as a symptom under diseases of the internal ear. In the volume on Diseases of the Skin an alphabetical arrangement of the diseases is given in order to facilitate reference, and because, as the author reminds us, the present classification of the cutaneous disorders from the standpoint of pathology is by no means final. The volume on Anatomy runs to 389 pages of a print which is smaller than that contained in most of the volumes; it is a systematic work and not a companion for the dissecting room. Physiology is considered in a book of 255 pages; all the essential facts with which the student and practitioner should be familiar appear to be gathered together in this manual. In the volume on Normal Histology the intention of the writer has been to tabulate clearly and concisely the most important points; sufficient embryology is included to aid in a correct understanding of histology and a better appreciation of pathological processes. In the volume on Chemistry and Physics the purpose has been to set forth accepted and proved facts forming the basis of the sciences in a manner which, in the author's opinion, will serve best for their clear and easy understanding by the student. In each volume the chapters are succeeded by a number of questions on the subject-matter which will be useful in enabling students to review their knowledge when preparing for examinations.

The subject-matter of the volumes appears to us to be accurate, clear, and up to date, and the cardinal facts are ably set forth. The danger of a series of books of this kind lies, in our opinion, in the possibility that some classes of students may accept these volumes not merely as being of service in laying a foundation to their knowledge but as substitutes for the larger text-books. The books contain essentials but there is no room in them for explanations.

Diseases of the Heart and Aorta. By THOMAS E. SATTERTHWAITE, M.D., Professor of Medicine in the New York Post-Graduate Medical School; Consulting Physician to the Post-Graduate Orthopædic and Babies Hospital. New York: E. R. Pelton. Pp. 304.

THIS volume is based on a series of articles which originally appeared in medical periodicals; the whole contents of the work, however, have been carefully revised, so that much new matter has been added since the communications were first published. The aim of Dr. Satterthwaite has been to try to place before the general practitioner a brief, simple, but practical consideration of the affections of the heart and of the aorta. Most of the conclusions have been arrived at from the personal experience of the author and the whole character of the volume is essentially practical. Little space is given to the anatomy or the surgery of the heart and large blood-vessels, congenital anomalies and neoplasms of the heart are only briefly referred to in the appendix, and the subject of parasites affecting the heart is disposed of in about 15 lines. Theories and methods of treatment which are of interest mainly from a historical point of view receive but scant notice, as they are not of practical interest. Only brief mention, too, is made of the sphygmograph, as Dr. Satterthwaite believes that the use of this instrument is likely to mislead rather than to help at the bedside or in the consulting room. The practical value of the sphygmomanometer is, however, recognised.

Much stress is laid on the comparative value of diagnostic signs and the relative frequency and gravity of the various valvular lesions are referred to at length. After due consideration of the prognosis of affections of the valves of the heart Dr. Satterthwaite places the lesions in the following order as regards gravity, the most grave standing first: (1) mitral stenosis; (2) aortic insufficiency; (3) aortic obstruction; and (4) mitral insufficiency. This conclusion is arrived at by estimating the average age at death of patients suffering from the respective lesions. Authorities are not unanimous on this point but the above order is the one now accepted by some of the larger assurance societies. Many observers, however, still maintain that aortic insufficiency must be considered more dangerous than mitral stenosis and aortic obstruction as less serious than mitral insufficiency.

Taking the book as a whole, we consider that much useful

information will be derived from a study of its contents. Some of the chapters, however, are rather too curtailed, as, for instance, the one dealing with mitral insufficiency. But, as a rule, the subject matter is dealt with in a thoroughly practical and praiseworthy manner.

The National Standard Dispensatory. By HOBART AMORY HARE, B.Sc., M.D.; CHARLES CASPARI, jun., Ph.G., Phar.D.; HENRY H. RUSBY, M.D.; JOSEPH F. GEISLER, Ph.C.; EDWARD KREMERS, Ph.D.; and DANIEL BASE, Ph.D. London: J. and A. Churchill. 1905. Pp. 1860. Price 31*s.* 6*d.* net.

THIS colossal compilation might be well described as an encyclopædia of modern pharmacology and pharmacy. It contains between its covers 1860 closely printed pages and the size of the volume is somewhat larger than the new Medical Directory. It deals with the natural history, chemistry, pharmacy, actions, and uses of medicines, including those recognised in the pharmacopœias of the United States, Great Britain, and Germany, and besides there are numerous references to other pharmacopœias. Needless to state, the subject matter is in accordance with the eighth decennial revision of the United States Pharmacopœia of 1905. If it were otherwise its *raison d'être* would be gone. The work, in fact, which has been printed in America, is designed to succeed the National Dispensatory of Stillè and Maisch, which for years was recognised as a standard work of reference on pharmacology. The merest glance through the pages shows the earnestness and care with which its compilers have done their work. No pains have been spared to bring the work into accord with modern knowledge, with the result that the book is certain to secure a place as a valuable source of reference on pharmaceutical matters. The considerable advances which have been made during recent years have entailed, as will be easily understood, a considerable amount of work in order to render the subject-matter of value to the modern reader and this work has been increased by the attention which has been given to remedies which are not universally known and which, in fact, have gained, so to speak, a local reputation—remedies which for this reason will not be found mentioned in general contributions on the subject.

One excellent feature of the work is the thoroughness with which what may be described as the assay section of pharmacy has been done. We regard this feature as of particular value because on these questions there is necessarily very little practical information in the official compilations that can guide the pharmacist. Thus references to the properties and tests of the drugs and chemicals described constitute, in our opinion, a very valuable source of reference in the work, especially as the facts concerned are drawn from the chief foreign pharmacopœias. The sections on alkaloids and volatile oils are most thoroughly treated; the latter section, perhaps, receives the greater share of space and in it is included a valuable table of constituents and physical constants. Radium takes its place in the pharmacological list and the account is excellent while not lengthy, the description of the events which led to its discovery being most intelligently and tersely written. While this is so we may express some surprise at not finding in the article on mineral waters any reference to the radio-active property which is now known to characterise so many of them and from which it would appear that they derive some of their therapeutic effects. We read, for instance, that the waters of most of the thermal springs do not possess any therapeutic properties apart from their heat. This statement, we imagine, must now be modified in view of the radio-active property which marks almost all thermal waters and in this connexion may be mentioned the waters of Bath and Buxton.

Considering the enormous amount of exact work which has been done in this country owing to the epidemic of poisoning by arsenical beer a few years ago, we should have thought that the article dealing with the detection of arsenic would have been in a closer line with these modern investigations than it is. The old classical tests for arsenic are known to present certain fallacies and it is of the utmost importance that they should be observed in toxicological practice. Owing to the special attention which was forced upon chemists and others in this country we doubt whether the subject is anywhere so far advanced as it is at the present time in England. In the article on amyl alcohol it is stated that small amounts of this alcohol are nearly always present in ethyl alcohol and in all compounds containing the latter. Later it is remarked that this is especially true in regard to freshly distilled or raw preparations. As a matter of fact, amyl alcohol is not eliminated in potable spirits by age at all events, as a higher proportion is invariably found in old whisky or brandy than in the freshly distilled product. Whisky, it is remarked, is more easily obtained unadulterated than is brandy, and for this reason, the writer states, is preferred for most medicinal purposes. Therapeutically, we hold, the two cannot be regarded as interchangeable, assuming that they are genuine. The disagreeable odour of raw whisky is stated to be due to a small quantity of amylic alcohol, which on keeping is changed into an ether and perhaps partly into valerianic acid. This can hardly be the case in view of what we have already said.

The appendix will be a useful guide to the pharmacist who wishes to turn analysis to account in the examination of drugs, while the article on the physiological testing of drugs, including suprarenal extract, will be read with profit because of its practical character. The index is admirably drawn up and comprehensive and is divided into a general index of over 100 pages and a therapeutic index of 20 pages. The printing of the words fluid ounce, fluid drachm, and fluid extract as fluidounce, fluiddrachm, and fluidextract is open to objection.

To say that the work is practically a complete storehouse of modern pharmacological and pharmaceutical knowledge is no exaggeration and the editors may be congratulated on the success with which they have accomplished a very great task. The names of the distinguished American professors of therapeutics, materia medica, pharmacy, botany, and chemistry (in its various departments) on the title-page are calculated to assure the reader of the trustworthy character of the mass of information contained in the volume.

Das Biologische Verfahren zur Erkennung und Unterscheidung von Menschen- und Tierblut. (The Biological Method by which the Blood of Man and of Beasts may be Recognised and Distinguished.) By Professor UHLENHUTH. Jena: Gustav Fischer. 1905. Pp. 152. Price 3 marks.

This little volume contains a collection of short articles published at various times in the medical journals by Professor Uhlenhuth on the biological tests for blood. The principle on which these tests are founded is now generally accepted—namely, that the serum from an animal which has been injected by way of the peritoneum with any given organic fluid will, if mixed in small quantity with a dilute solution of the fluid used for the injection, produce a more or less definite precipitate. For instance, if human defibrinated blood be injected into the peritoneal cavity of a rabbit the serum obtained from the rabbit's blood, when mixed with a clear solution of the blood of man, will produce a precipitate and agglutinate the red blood corpuscles if present. A similar reaction will not follow if such serum be added to a solution of the blood of any other animal. Professor Uhlenhuth speaks in the highest praise of the value of this test in medico-legal practice and maintains that it may be

absolutely relied upon. Among the drawbacks to the biological test are its intricate technique and the long experience that is required before trustworthy results can be obtained. Professor Uhlenhuth admits this difficulty and with a view of rendering aid to those practitioners who may wish to employ these tests he has made this collection of the numerous articles which he has written on the subject. This entails a certain amount of overlapping in the various chapters but in dealing with a difficult and important subject repetition is not a serious fault.

Various other albuminous substances which may be encountered in medico-legal practice, such as stains of seminal fluid, are also referred to and it is explained how biological tests may be of value when such examinations have to be made. This book will be found of considerable value to those who are interested in forensic medicine.

Handatlas der Operationen am Schläfenbein, für Aerzte und Studierende, insbesondere für angehende Spezialaerzte. (*Hand Atlas of Operations upon the Temporal Bone, for Physicians and Students, especially for those commencing to Specialise.*) By Professor GERBER of Königsberg, Prussia. With ten tables and nine plates in the text. Wiesbaden: J. F. Bergmann; Glasgow: F. Bauermeister. 1904. Pp. 46. Price 8*s*.

THE hand atlas of Professor Gerber is intended largely as a means of enabling practitioners to have within their reach a lucid and illustrated description of those operations which are connected with diseases of the ear, so that those who are unable to have access either to anatomical preparations or to skilled assistance may be able to relieve those of their patients who are suffering from any aural disease necessitating operation.

The first division of the work deals with the complications of suppurative otitis demanding operation and the operation indicated for each complication. These details are given in a tabular form and are clear and concise. The directions with reference to the moment to be selected for operation are given in an extremely vague way, for Professor Gerber says that "when the critical moment has arrived, after conservative treatment has failed, then it is necessary to operate," although later this vague direction is somewhat more sharply defined. He then proceeds to describe, in the fewest possible words, the preparations for operation. The armamentarium of the surgeon is laid down with elaborate detail. Professor Gerber then deals with the post-aural operations, commencing with a general description, applicable to all, describing the ordinary semicircular incision, which commences above the auricle and terminates at the tip of the mastoid process. He then considers what he terms "the typical opening of the mastoid," but which is better known as the "Schwarze" operation. There is nothing whatever new in this but it is very clear. Professor Gerber next enumerates the various abnormalities which may interfere with the technique of the classical operation and then the method of opening the antrum in these unfavourable circumstances, as, for instance, in cases where the lateral sinus is very high up and far forward. Next comes the radical operation. This part of the work is divided into several sections and the classical operations of Zaufal and Stäcke are carefully portrayed. Professor Gerber next proceeds to treat briefly the plastic methods adopted when covering in the operation cavity partly or entirely with skin. He devotes considerable space to the after-treatment which is very carefully reviewed. A short account is given of the various methods of closing the retro-auricular openings, a procedure which, we are glad to say, is rarely required at the present time in this country. Next follows the operation necessary for opening the labyrinth, followed by the procedure employed for dealing with the various collections of purulent material within the cranium, extradural, cerebral, and cerebellar. In a few words, meningitis serosa, lumbar puncture, puncture of the ventricle, purulent pachymeningitis, and leptomeningitis are dealt with. The letterpress concludes with the description of operations on the lateral sinus, ligature of the jugular vein, and the laying bare of the jugular bulb. Throughout Professor Gerber is unusually sparing in his words. They are clear and concise, though perhaps hardly sufficiently lucid really to enable surgeons not thoroughly conversant with the surgical anatomy of the part to work with any confidence, at any rate, in their earlier operations.

The plates are very admirable reproductions of operations performed on the cadaver; the first plate depicts the incision, the next the bone, with the soft parts retracted, one showing the opening in a case of simple disease of the antrum, and another that in a case of disease of the mastoid process. The next four drawings represent the second and third stages of a radical mastoid operation and the completed operation. Stäcke's operation comes next, together with three phases of one method of dealing with the external auditory meatus, and the only criticism which we wish to make on this is that the cutaneous surface appears to have been most obligingly elastic, more so we fear than will be found in practice. The fourth plate consists of two other methods of dealing with the external meatus and a method of applying the bandage. The fifth plate deals with the plastic methods of closing a post-auricular opening. Two figures in Plate VI. are devoted to the opening of the labyrinth and are relatively clear. In the other two figures in this plate the dura mater is exposed in the temporal fossa. In Plate VII. operations on the lateral sinus are depicted. Plate VIII. shows the dissection necessary for ligation of the jugular vein and the freeing of the bulb. In Plate IX. the dissection employed for laying bare the lateral sinus and the jugular vein in continuity is delineated. The last plate shows three anatomical figures, the soft parts having been removed, the first representing a radical operation on the tympanum; the second this combined with exposure of the facial nerve and jugular vein; and the third merely the removal of the front wall of the mastoid process.

Professor Gerber has already earned the gratitude of all rhinologists by the production of his "Atlas of Rhinology." The work at present under consideration, we regret to say, does not occupy relatively so high a position. It is, however, an extremely useful work and will be much appreciated by those for whom it is intended, the more so as its very moderate price will place it within the reach of all. It will be a most useful work in operations on the cadaver, for except under extraordinary conditions it cannot be desirable that a surgeon should work up overnight the technique of these operations, some of the most difficult in surgery, intending to employ them on the living subject the next day, for there probably exists no class of operation requiring greater experience and more skilful technique. However, as a guide to operative aural surgery, especially on the dead body, there certainly exists no better book.

LIBRARY TABLE.

Herbert Fry's Royal Guide to the London Charities. London: Chatto and Windus. 1906. Pp. 293. Price 1*s*. 6*d*.—This, the forty-second annual, issue of "Fry" is as useful as ever and forms an excellent guide for those who have money to dispose of for charitable purposes but are ignorant as to how they shall dispense it. We must draw the editor's attention to one irregularity. We naturally returned to the entries concerning the hospitals and we

surprised to find that St. Bartholomew's Hospital is indexed as "Bartholomew's (St.)" under the letter "B," while St. George's, St. Mary's, and St. Thomas's hospitals appear under the letter "S."

Pannell's Reference Book for Home and Office. London: The Granville Press, Limited. 1905. Pp. 984. Price 6*s.* 6*d.*—This volume contains a large amount of valuable and useful information. It is arranged according to the following divisions: an English dictionary, aids to the study of English, a dictionary of general information, a medical dictionary, a guide to education and the professions, a social guide, the world and the empire, a legal guide, and a commercial guide. As a general book of reference it will be found very convenient as it contains many matters which are of interest to everybody. We cannot commend the idea of a "medical dictionary" intended for the use of the public. In this instance, however, the author of this section has succeeded in giving information which will be generally instructive without entering upon matters which concern a medical practitioner only. In fact, the author's intention has been well carried out. In the preface he explains that he wishes to offer "a few remarks to serve as a finger-post in directing the reader to the right use of this dictionary of medicine, which is not intended to supersede the doctor but to indicate when he should be called in and to act as a guide in emergencies when he is not immediately available, or in simple cases when his aid is not needed." The author further says that he has aimed at making this dictionary a "guide to health." He gives some sound advice as regards domestic and general hygiene but carefully avoids giving any directions as regards drug treatment which could only be carried out under the directions of a medical man. The section on "General Information" deals with an immense variety of matters, from the names most frequently occurring in current literature to the distinguishing letters on motor-cars.

The Royal London Ophthalmic Hospital Reports. Edited by WILLIAM LANG, F.R.C.S. Eng. Vol. XVI., Part III., October, 1905. London: J. and A. Churchill. Pp. 209. Price 5*s.*—This part of the Royal London Ophthalmic Hospital Reports contains eight articles, all of which are of interest. The first is by Mr. E. Nettleship and deals with the subject of heredity in the various forms of cataract. He recognises two principal classes, acquired or postnatal and congenital cataract. The congenital is subdivided into lamellar, the much less common axial or spindle form, and complete cataract. A considerable number of cases have been collected by Mr. Nettleship, many from his own practice and many from journals, theses, and other sources in which the heredity is clearly shown by genealogical tables. One remarkable case is that of a family in which five generations present a total of 30 cases of cataract in 90 persons. A good bibliography is appended to the article. Mr. E. Treacher Collins has a communication on Capsular Complications after Cataract Operations. In some instances the complications resulted from adhesion of the lens capsule to the extraction scar, either becoming entangled in the wound or adherent to the back of the wound; in other instances the complications resulted from opacity occurring in connexion with the lens capsule after extraction of cataract. Examination with the microscope showed in different cases retained lens substance, wrinkling of the anterior capsule and new growth of cells lining it, and adventitious fibrous tissue. Three plates accompany this article. Mr. George Coats gives an account of a case of Obstruction of the Central Artery of the Retina. This article is illustrated by three plates showing sections of the obliterated artery. Mr. Angus MacNab describes Marginal Blepharitis, its Cause, Pathology, and Treatment. He finds that the majority of cases have the Morax-Axenfeld bacillus in the secretions. The treatment by the use of sulphate of zinc gives the best results. Mr. M. S. Mayou contributes an article on Implantation Dermoids of the Conjunctiva, illustrated with one plate. Glioma Retinæ is a reprint of a thesis by Dr. S. A. Owen, read for the M.B. degree before the University of Cambridge. The two remaining articles are on Papilloma Limbi Conjunctivæ, by C. Pascheff, M.D., of Sofia, Bulgaria, with two plates, and a Case of Tubercle of the Nerve Head, by Mr. G. Coats, with a plate.

The Englishwoman's Year-Book, 1906. Edited by EMILY JANES. London: Adam and Charles Black. Pp. 402. Price 2*s.* 6*d.* net.—This year-book will be found of the utmost value to any woman who is thinking of taking up any employment, in whatever class of life she may be in. It is full of information and seems to us to be most carefully edited. We see that the work is in its twenty-sixth year of issue and it is curious to compare the variety of occupations in which women are now engaged with those open to them a very few years before the first issue of the year-book in question.

The Schoolmaster's Year-Book and Directory, 1906. London: Swan Sonnenschein and Co., Limited. Pp. 562. Price 6*s.* net.—This work may best be described to our readers as being, *mutatis mutandis*, the schoolmaster's "Medical Directory"—that is to say, it gives much the same information to schoolmasters and others connected with the teaching profession as does the Medical Directory to medical men. The introductory review of the year is somewhat pessimistic in tone, for the author says: "We have neither the schools, nor the men, nor the money." We feel inclined to add "nor the grammar" which we trust the schoolmasters will not endorse.

"*Portez-vous bien?*" By Dr. TERWAGNE. Third edition, Paris: Vigot Frères. 1905. Pp. 115. Price francs 1.50.—This is an excellent little brochure giving popular and rational elementary views about hygiene by a medical man who is a communal councillor of Antwerp and vice-president of the league against tuberculosis. Anyone who will read it and follow its practical suggestions will be able "to carry himself well"—i.e., to keep in good health without the aid of physicians or druggists. The author is a very self-denying medical man who shows his clients how to do without him and his services. The opuscule gives short, concise talks on air, light, water, foods, sleep, trade or profession, work, tobacco, the temperaments, and, lastly, health, which is "*le seul capital indispensable.*"

A Treatise on the Parasites and Parasitic Diseases of the Domesticated Animals. By Professor NEUMANN of Toulouse. Translated by GEORGE FLEMING, C.B., LL.D., F.R.C.V.S. Second edition, revised and edited by Professor MACQUEEN F.R.C.V.S. With 365 illustrations. London: Baillière, Tindall, and Cox. Pp. 967. Price 21*s.* net.—There is no book in the English language which deals with the parasitic diseases of the domesticated animals so fully as the late Dr. Fleming's translation of Professor Neumann's work; and the second edition has been in every way completely revised and brought up to date by Professor Macqueen. It is a standard authority and deals not only with the transmissibility of the parasitic diseases from animal to animal but also from the lower animals to man; and for the student of comparative parasitology, whether he is a medical or a veterinary practitioner, every page contains something of interest. It is a book which should find a place in every medical library and on the book-shelves of every specialist in skin diseases and of every medical officer of health.

JOURNALS AND MAGAZINES.

The Journal of Physiology. Edited by Sir MICHAEL FOSTER, K.C.B., F.R.S., and J. N. LANGLEY, Sc.D., F.R.S. Vol. XXXIII. Nos. 4 and 5. London: C. J. Clay

and Sons. Pp. 187. Price 11s.—The following articles are contained in this number of the *Journal of Physiology:* 1 Colloidal Solution: the Globulins, by W. B. Hardy, Fellow of Gonville and Caius College, Cambridge, with 10 figures in the text. This is a long and important article. It deals with the behaviour of globulins to acids, alkalies, and salts, and the properties of the solutions considered as cases of colloidal solution. 2. Globulin, by J. Mellanby, with 16 figures in the text. Mr. Mellanby gives the following summary of the results that he has obtained: (1) Solution of globulin by a neutral salt is due to forces exerted by its free ions. Ions with equal valencies, whether positive or negative, are equally efficient and the efficiencies of ions of different valencies are directly proportional to the squares of their valencies. (2) The amount of globulin dissolved by a given percentage of neutral salt is directly proportional to the strength of the original globulin suspension. (3) The precipitation of globulin from solution in neutral salts by neutral salts depends upon a molecular combination between the salt and globulin, the compound so formed being stable only in excess of the combining salt. Precipitation by salts of the heavy metals depends upon the formation of a stable salt globulin compound. (4) Solution of globulin by acids or alkalies is of the nature of a chemical combination. The relative solvent efficiencies of strong acids and alkalies are of the same orders as their chemical avidities. 3. On the Reaction of Cells and of Nerve Endings to Certain Poisons chiefly as regards the Reaction of Striated Muscle to Nicotine and to Curari, by J. N. Langley, professor of physiology in the University of Cambridge, with eight figures in the text. Professor Langley concludes from his experiments that in all cells two constituents at least must be distinguished: (1) substance concerned with carrying out the chief functions of the cells, such as contraction, secretion, and the formation of special metabolic products; and (2) receptive substances especially liable to change and capable of setting the chief substance in action. Further, that nicotine, curari, atropine, pilocarpine, strychnine, and most other alkaloids, as well as the effective material of internal secretions, produce their effects by combining with the receptive substance and not by an action on axon endings if these are present or by a direct action on the chief substance. 4. The Paralysis of Involuntary Muscle, Part 3, on the Action of Pilocarpine, Physostigmine, and Atropine upon the Paralysed Iris, by Dr. H. K. Anderson, with three figures in the text. This number also contains the Proceedings of the Physiological Society, Nov. 11th, 1905.

Medical Electrology and Radiology.—In the December number of this journal Dr. E. Reginald Morton contributes a paper on the Measurement of the Current passing through an X Ray Tube. The interesting feature of this is the employment of the oscillograph vacuum tube of Ruhmer, by which, under suitable conditions, the curve of the current traversing the tube can be observed directly. This tube is one of the most interesting instruments that has recently been brought out and since it can be used as a milliampèremeter as well as an oscillograph it will in all probability become very popular among the users of high tension and variable currents.

The Archives of the Röntgen Ray.—In the number for January Dr. Ernest Kingscote has an interesting note on the Diagnostic Value of the Roentgen Ray for the Soft Organs of the Body. The case in question had been successively diagnosed as one of aneurysm, new growth, and floating kidney. A skiagraph revealed a dilated heart pushing the diaphragm downwards towards the umbilicus in a wedge-shaped depression and the organ appeared to be dragging on the ascending aorta. Three months after a six weeks' course of the Schott-Nauheim treatment the patient was very much better and the skiagraph showed that the heart had assumed the normal position. The case goes to show the importance of X ray examination in cases of the kind, since the ordinary methods of examination had revealed physical signs which were misleading. H. Guilleminot continues his paper on the Exploration of the Thorax by Orthodiagraphy, as also does H. E. Gamlen his Report on the General Utility of High-frequency Currents. With regard to the latter it is difficult to determine just how far the high-frequency currents have been responsible for the benefit accruing in some of the cases. The paper is interesting, however, and may be referred to with advantage. From the point of view of electro-physics the papers by Maurice Leblanc and William Rollins are very valuable contributions, both of them being continued from a previous number. The former, dealing with the Cooper Hewitt Mercury Vapour Lamp and Valve, shows how exceedingly useful this instrument may be both experimentally and commercially. It is here shown, among other things, that, contrary to the generally accepted opinion, a vacuum tube becomes a better conductor of electricity as the vacuum becomes higher. The future development and applications of the Cooper Hewitt lamp will be watched with great interest. Some excellent reproductions are given of radiographs of injected specimens made by A. G. Fryett of Melbourne and a very complete set of notes and abstracts assists to make up a very interesting number. We notice, however, that of the six original articles four are continued from previous issues and the two which are complete are very short. While quite appreciating editorial difficulties we cannot help thinking that the proportion of continued articles is rather large for a monthly journal.

Journal of Anatomy and Physiology. Conducted by Sir WILLIAM TURNER, K.C.B., F.R.S.; D. J. CUNNINGHAM, M.D., F.R.S.; G. S. HUNTINGTON, M.D.; A. MACALISTER, F.R.S.; and J. G. M'KENDRICK, F.R.S. Vol. XL. Third series. Volume I., Part II. With plates and illustrations in the text. London: Charles Griffin and Co. 1906. Pp. 102. Annual subscription one guinea.—The articles contained in this number of the *Journal of Anatomy and Physiology* are: 1. On the Fate of the Tænia Clino-orbitalis (Gaupp) in Echidna and in Ornithorhynchus respectively, with demonstration of specimens and stereo-photographs, by J. T. Wilson, M.B., C.M.Edin., professor of anatomy, University of Sydney, Sydney, New South Wales. This paper was read at the first International Federative Congress of Anatomy at Geneva in August, 1905. 2. Note on the Development of the Thymus Gland in Lepidosiren Paradoxa, by Thomas H. Bryce, M.A., M.D. Edin., a paper read at the first International Federative Congress of Anatomy at Geneva in August, 1905. Dr. Bryce has satisfied himself that the thymus in lepidosiren has up to an advanced larval stage absolutely nothing to do with the formation of the leucocytes. 3. Observations upon the Cetacean Flippers with special reference to Hyperphalangism and Polydactylism, by J. Symington, M.D. Edin., F.R.S. 4. Note on the Elastic Tissue in the Eye of Birds by E. W. Wace Carlier, M.D. Edin., F.R.S. Edin. The birds examined and described in this paper are the house sparrow, chaffinch, goldfinch, skylark, swallow, blue tit, wren, wild duck, common gull, tern, and the budgerigar; bird's eyes contain a large quantity of elastic tissue and are provided with a special elastic tendon for the insertion of the ciliary muscle. In most birds the membrane of Descemet consists mainly of elastin and the pectinate fibres are chiefly composed of elastic tissue. The ciliary muscle invariably ends in a conspicuous bundle of rather coarse elastic fibres that bifurcate posteriorly, one portion being inserted into the choroid, the other portion into the perichondrium of the inner surface of the sclerotic cartilage. 5. Pulmonary Changes in

Asphyxia, by Ivy McKenzie, M.A., M.B. Glasg. 6. On the Development of the Hind Brain of the Pig, by O. Charnock Bradley, M.B., D.Sc. Edin., with six plates. 7. A Study of the Astragalus, by R. B. Seymour Sewell, B.A. 8. The Arrangement of the Elastic Fibres in the Bronchi and Lung, by James Miller, D.Sc., M.D. Edin., with five illustrations in the text. 9. A New Method of Demonstrating the Topographical Anatomy of the Adult Human Skull, by Sydney R. Scott, M.B. Lond. 10. A Note upon the Mode of Termination of the Posterior Tibial Artery and Nerve, by Charles R. Whittaker, L.R.C.S. Edin., with three drawings in the text. This part also contains the Proceedings of the Anatomical Society of Great Britain and Ireland for August, 1905.

New Inventions.

IMPROVED GOUGE FOR MASTOID OPERATION.

IN the performance of the radical mastoid operation for suppurative disease of the middle ear I have found two instruments very useful. They are both modifications of those usually employed. The first is a quarter-inch gouge of very shallow curvature with square ends. The second is shaped like a carving chisel and its appearance is well shown in the accompanying illustration. This latter instrument is especially useful in removing the posterior wall of the meatus in young children, as only a very small portion of the cutting edge is used at one time.

Both instruments are made with Ballance's handles and they form part of a complete set which have been specially made for me by Messrs. Cuxson, Gerrard, and Co., Birmingham, with the handles all of uniform weight and size; this is a convenience in changing from one instrument to another.

A. KNYVETT GORDON,
Medical Superintendent, Monsall Hospital, Manchester.

MOUTH PROPS FOR USE DURING SURGICAL ANÆSTHESIA.

HAVING up to recent times used solid vulcanite dental mouth props placed sideways between the teeth when it was necessary to keep them apart in certain cases of jaw spasm and obstruction to nasal breathing, I have lately devised an improved set of three hollow metal props which have a good deal of advantage over the other makeshift ones. Their superiority lies in the facts: (1) That they are sterilisable and indestructible by boiling or strong antiseptics; (2) that they allow of respiration when the jaws and lips are closed on and around them (a very important point in edentulous patients and people with full lips); and (3) that two of them are flattened at one end in order to make introduction easier during anæsthesia. The large one I usually place between the teeth before anæsthetising big strong men, cases of intestinal obstruction with vomiting, and patients suffering from nasal obstruction, because it gives a very free way for air or fluid and keeps the jaws well apart; it is also intended for use during narcosis of edentulous patients. The smallest prop may be useful in children. The illustrations well show the shape and relative size of the set of props. I am much

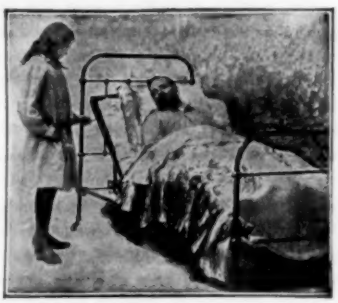
indebted to Messrs. Down Bros., of St. Thomas's-street, London, S.E., for the care and trouble which they have taken in carrying out my wishes in the matter.

W. J. MCCARDIE,
Anæsthetist to the General, Dental, and Ear and Throat Hospitals, Birmingham.

THE EQUIPOISE COUCH COMPANY: A CORRECTION.

THE Equipoise Couch Company have pointed out to us that our description of the principle upon which the Equipoise Bed, Couch, and Chair works, as published in THE LANCET of Jan. 27th, is in certain respects not accurate. The principle on which these inventions work, and, indeed, upon which the main claim for novelty depends, has not, we admit, been made clear. And this principle is particularly ingenious.

All the articles are made in three parts, corresponding to the back, seat, and leg, and are connected by hinged joints. The novelty lies in the fact of the rear supports, or legs, being pivoted to the base and also to the back at the exact *centre of equipoise*, so that when in use the occupant can either remain level as in an ordinary bed or, if he so desire, he may, by merely bending the body at the hips, smoothly and easily raise himself



to the sitting or any intermediate position. As the back rises the seat declines at the back end, so that there is no tendency for the patient to slip towards the foot of the bed, as undoubtedly often happens when bed-rests are used, or merely supporting pillows. The leg part of the Equipoise couches is arranged to remain on the level or to decline in unison with the movement of the back, so that a change of position, often most grateful to the invalid, can be assumed for any purpose at any time. The patient merely releases a catch and the balance principle does the work. The new illustration shows the ease with which an Equipoise Bed can be raised or lowered; the child represented is moving the bed with one finger only, a point which will particularly appeal to those nursing heavy and helpless invalids. The bed can be locked securely in any position by depressing a handle, one of which will be found in a convenient position on either side of the bed. We recommend our readers to inspect the productions of the Equipoise Couch Company at the Institute of Hygiene.

A CONSCIENTIOUS OBJECTION TO VACCINATION.—At Brixham, Devon, on Jan. 26th, a stonemason applied for a vaccination exemption order chiefly on the ground that, being a vegetarian, he did not wish to have "animal matter" introduced into his child's system. The exemption was eventually granted, although one of the magistrates (Lord Churston) strongly urged the applicant to have his child vaccinated.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 3, 1906.

Overlying.

OUR Manchester correspondent[1] recently called attention to the frequency with which the suffocation of children sleeping with their parents takes place at Manchester at "week-ends," and he mentioned that four inquests had been held by the city coroner upon infants thus overlain during the late Christmas season. In the case upon which he was commenting four persons had been sleeping in one bed and this had been the condition also in two instances which recently occurred at Lambeth and with regard to which Mr. TROUTBECK held inquests on the same day. In one of these latter instances it was alleged by way of excuse that the bed in which the children usually slept could not be occupied by them because the rain came in upon it and the statement was made that in three years' time the house was going to be pulled down. However this may have been there can be little doubt that in a great number of cases poverty and the inability to provide a separate crib are pleaded by the parents as an excuse for the dangerous position which the infant occupies in their bed, and further, that a drunken or semi-drunken condition of both or perhaps only of the mother is in fact the cause of the child's death. The parents' drunken negligence ought to make them criminally liable. The Manchester coroner expressed himself to this effect and in the case alluded to by our correspondent avowed his intention to commit for trial upon a charge of manslaughter any parents overlying their infants against whom evidence of their being under the influence of alcohol could be found. The nature of the occurrence, however, renders such evidence almost impossible to obtain. The parents may live among neighbours whose standard of duty and of decency is no higher than their own; they may have been seen by no one when they returned home from the public house or they may have consumed their liquor in the privacy of their own room. They may not, moreover, have attained to a pitch of intoxication which those about them would recognise as drunkenness and yet may have been sufficiently fuddled by drink to fall asleep and to remain asleep in complete indifference as to the baby's welfare. Therefore, whether there is drunkenness or not, it is almost incapable of proof and if the frequency of overlying is to be diminished it must be done in such a manner that all cases may be covered and the matter must be considered generally and apart from a particular phase of it.

Mention has been made of the alleged poverty of the parents or parent, and in connexion with this the observation is often made that any box, such as an old orange box, can be adapted for use as a cradle. It must be borne in mind, however, that the actual bedstead is not all that is required to make a bed and that warmth is essential to the young child. His parents may be sleeping in a bed almost devoid of blankets and bedding and they would no doubt say that although a box alone might be obtainable, bedding would be beyond their means. They probably reflect also that warmth by making the baby comfortable keeps him quiet at the same time and that when in the bed he can be nursed with the least possible amount of trouble to his mother. On the other hand, it may be said that a decent and an intelligent woman, fond of her child and solicitous for his welfare, would never sleep with him in the bed which she occupies with his father, and that where the parents at the time of the child's death are so poor that they could not have assigned to him bed and bedding of some kind the question may be raised whether this poverty is not due to their own fault. In other words, if decently behaved, frugal, and industrious parents can put their children to sleep in conditions consistent with their health and safety, must we permit other parents to imperil human lives merely because by their improvident and self-indulgent habits they have put it out of their own power to do otherwise? Can we not provide for the punishment of these in order to prevent the sacrifice of life without dealing too hardly with cases of extreme poverty where this is the result of genuine misfortune?

The word punishment has been used because it appears to us that if this particular variety of preventable infant mortality is to be put an end to the method adopted must be penal. Gentler measures, such as education and advice, would affect but few instances, for they would only appeal to women of a respectable class who as a rule do not adopt the practice complained of. Education and advice would have little effect upon the drunkard and would entirely fail to touch those whose action is more or less deliberate and intentional. We must not forget in dealing with this matter that the death of an infant in many families is, perhaps tacitly, regarded as a blessing and that in many those who would not deliberately compass it look back upon it with no regret. Instances occur in which a mother in the course of her married life overlies not one but several infants, with the inconvenience to herself that she may have to submit to reproof at the hands of a coroner but with the certain result that she avoids the daily burden of bringing up a family. As to the manner in which the law should operate this is hardly for us to suggest. In order that all parents killing their children in the manner indicated might be sent for trial and convicted in a substantial number of cases of manslaughter by criminal negligence no legislative change would be necessary, but it would imply the introduction of a new practice in which juries might or might not be willing to acquiesce, even though judges were favourable towards it. On the other hand, the compulsory provision of a separate sleeping place for a child under a fixed age would be objected to by some as an interference with the liberty of the parent and as tending to expose the child to suffering from cold. It would also be difficult to enforce. A parallel nevertheless may be found in the comparatively recent obligation laid upon parents to provide their children with medical aid when

[1] THE LANCET, Jan. 20th, 1906, p. 189.

needed. The failure to do this may not often be discovered when the child recovers, but when death occurs a prosecution almost always is instituted which has a deterrent effect upon others. Whatever view, however, may be taken as to the desirability of legislative interference, it should, at any rate, be understood clearly that not a few deaths take place in the manner indicated, some of which are the result of deliberate crime, while all are preventable.

The Visit of the London County Councillors to Paris.

DURING the whole of next week the members of the London County Council will be enjoying the hospitality of the Paris Municipal Council. The reception promises to be most brilliant and cordial. Gala representations, both serious and of the light variety description, will enable the London county councillors to see how theatres and places of amusement are made to contribute to the maintenance of the Paris hospitals. The heartier the laughter, the more beautiful, attractive, and interesting the play, the larger the receipts for the relief of the poor and the suffering. Thus pleasure helps to relieve pain and sorrow and this in a very direct and material manner. Even the vice of gambling is utilised. Both the municipality and the Parliament have endeavoured to prevent horse-racing from degenerating into a mere pretext for gambling. "Bookmaking" has been suppressed by the strong arm of the law and the *pari-mutuel* substituted. But this State-controlled betting is only sanctioned on condition that a portion of every bet is handed over for the upkeep of the hospitals. If a person can afford to bet on a horse he can afford to subscribe to the hospitals and the law sees that such a contribution is duly deducted from the amount of the bet. Though the position of the general hospitals in London is, and we trust will remain, quite different, it will be interesting to our county councillors to see for themselves "how they manage these thing in France."

Other objects of interest will be the *cantines scolaires* and the municipal bakery in the Rue Sipio where bread is produced for the 14,000 inmates of the Paris municipal hospitals. In regard to food-supply, the fact that there are no private slaughter-houses should be investigated. The great abattoirs at La Villette are not models of what a municipal slaughter-house should be, for they were built many years ago, but they are very much to be preferred to the numerous private slaughter-houses of the British metropolis. Also, though the *halles* do not possess the picturesque aspect of the old portion of Covent Garden Market, they are infinitely better suited to the needs of a great city. It will be interesting to compare the Parisian methods of inspection of meat and other alimentary substances with those in force in London, and to see how far the costermonger class are controlled so that they shall not sell that which is unfit for consumption. As regards matters relating to the drainage of private houses and to public sewers there is probably more to be learnt in London than in Paris, but the *casiers sanitaires des maisons* is a method of control which surpasses anything similar in England. It would be worth while for any town council to go to Bordeaux[1] or to Paris if only for the sake of studying this method of keeping the record that builds up the complete sanitary history of every dwelling. Then again, in regard to the ventilation, the warming, and the application of the principle of unilateral light to the class-rooms of the Paris schools, there is a good deal worthy of observation. The ventilation of the great hall at the new Sorbonne is a notable endeavour to provide an audience of some 3000 persons with an ample supply of pure unwarmed air. The inlets are so contrived that this cold air, even in winter, passes through the great hall without causing a draught. The heat comes by radiation from all the walls and from every seat or article of furniture which has been previously heated.[2] This will be a great revelation to many of the county councillors if they can find time in the midst of all the festivities to study so serious a matter. But as they are the authority which in London controls theatres and other places like the Sorbonne, where large concourses of people gather together, this is a problem which is intimately associated with their work and responsibilities.

Such are a few of the matters connected with the preservation of public health which should prove of special interest to the London County Councillors on the occasion of their forthcoming visit to Paris.

Unwelcome Visitors.

THERE are worries affecting every class of the community which produce feelings of irritation often wholly disproportionate to the exciting cause; the irritation is, indeed, greater because the exciting cause is so trivial. Amongst members of the medical profession one of the chief sources of discomfort is to be found in the unnecessary disturbance of routine produced by an unexpected and perhaps unwelcome visitor who appears upon a "matter of business." No consideration need here be given to the consulting-room sneak, the light-fingered individual whose plausible story is told to servants and is intended solely to enable him to be left alone for sufficient time to annex portable property. We are referring now solely to the visits of travellers for various enterprising firms or foreign municipalities, who break in on the working day of general and consulting practitioner alike with eager persistency. We are generally addressed by the consulting practitioner upon the subject, but, as a matter of fact, country practitioners, especially those in a good position, are pursued with equal zest. It appears to be hoped that having often small leisure for reading they may thankfully receive up-to-date information without much destructive criticism of the terms upon which such information is imparted. Those who work in poor districts in town or country are often spared, perhaps because they frequently dispense their own remedies and so are likely to use fewer proprietary wares, but the practitioner who prescribes for the use of the druggist and the consultant, medical and surgical alike, are pursued relentlessly.

The type of caller varies from the agent of a firm interested in the employment of a new patent food to the peripatetic

[1] See THE LANCET, August 13th, 1898, p. 428, New Sanitary Service at Bordeaux.

[2] See THE LANCET, Jan. 2nd, 1892, p. 48.

foreign practitioner, generally the accredited emissary of his locality, who is anxious to spread the knowledge of the remedial virtues of the special continental spa which is honoured by his habitation; but in all cases the personal interest of the caller is always evident from the first. Many such persons are excluded by a well-trained domestic who has received instructions to make minute inquiries about the business of all who come without an appointment, but such instructions are often defeated by the visitor who meets them with the presentation of a professional card. Medical men are always assumed to be glad to welcome members of their own profession and this fact is accordingly exploited by those who feel that a personal interview may favour the cause which they have at heart. In charity it is reasonable to consider that all these callers are primarily actuated by a praiseworthy desire to be useful to those upon whose over-occupied time they levy a tax. Many are merely carrying out the instructions which they have received and their untiring industry may be regarded as commendable, though their methods may not be fully appreciated. That these methods fail to give universal satisfaction may be due to some lack of tact or discretion, some loss of the sense of proportion which may raise a smile or a frown when the caller proceeds to lecture his victim, incidentally showing that his didactic efforts are based upon insufficient data. It is natural that these usually unwelcome visitors should call during consulting hours. If they are to succeed in gaining access to the medical man they can only hope to do so by coming when others are hoped for or even expected. They pay a surprise visit and are, for the most part, pachydermatous when informed that the surprise is not a pleasure. This again they cannot be blamed for. And having gained admission, do they gain anything else? As far as pharmaceutical remedies go, let it be granted that medical men are glad to know the virtues of a new remedy and to make use of it at the earliest opportunity—while, in the French aphorism, it still possesses curative powers: the question still remains as to the best method of conveying this knowledge. There can be no doubt that to disturb a man at his avocation and to deliver a discourse upon the subject when that same man is burning to be left alone is not likely to conduce to business. The travellers too often assume an air of omniscience. They talk glibly a jargon which they believe to be scientific and do so with a patronising manner which conveys the impression that they have not troubled to ascertain whether their victim has any special knowledge of the subject or any chance of utilising the materials which are dumped down in the consulting room. They appear not to have realised that the Medical Directory might suggest a different tone and that to lecture a man upon his own subject is an idle proceeding. The general practitioner is requested to try the article and to order large supplies, on the ground that the consulting practitioners are all deeply interested in the remedy. The consultant is solicited to record his experience and may be surprised to find subsequently his name, with a few remarks separated from their context, appended to the "literature" relating to the new remedy. We cannot believe that such procedures really lead to an increased sale of pharmaceutical products.

It is in general easy for the medical man to secure immunity from agents of insurance companies, of motor-cars, and of encyclopædias. The first named are usually too tactful to require harsh treatment; the others are generally speedily open to conviction of the futility of making an attempt to prolong an interview. They are all business men who recognise the danger of undue persistence. Some are even sufficiently considerate to send an advance letter and to take no further steps unless this is answered. This, however, is not the way with another class of unwelcome visitors, a class that is getting more and more frequent, and a class upon which it is undoubtedly hard for a medical man to shut his door. We refer to unemployed nurses, masseurs, masseuses, and the managers of nursing and hygienic institutions of all sorts. The nurses who come in the hope of securing work; those who come to announce that they have opened a nursing home in the immediate neighbourhood and have ventured to secure an expensive staff and have gone to lavish outlay in adaptation of primarily unsuitable premises; those who have endeavoured to march with the spirit of the times and have fitted up elaborate apparatus for the use of light, heat, or electricity in therapeutics—all these in soliciting work from those to whom they are unknown are really wasting time on both sides, while demonstrating the sad need of employment which has only been realised after the period of training. But without a doubt the most difficult caller with whom the medical man has to deal is the foreign practitioner, and for obvious reasons his visits are usually made to the consultants of London. He is anxious to show his accurate knowledge of the English tongue and this knowledge is not always as perfect as he fondly thinks. He advocates the special baths, waters, or sanatoriums of his district; or, on the contrary, while conceding that open-air treatment is good for pulmonary tuberculosis, he argues at length on the evils of massing together so many sick people and advocates treatment in small private houses in his locality. With such views he is not, of course, connected with the sanatoriums the advertisements of which have made the locality known, but he is ready to profit by their notoriety. He is always polite and deferential, even while keeping the main object in view, and he deprecates any selfish motive in calling, while indicating how much the municipality or neighbourhood whence he hails has done for the sick sojourner. He is difficult because his host frequently has no means of gauging his professional status; his name is unfamiliar and yet he *may* be a man of light and leading in his own country and above all he is a medical man and must receive the cordiality due to a *confrère*. The unwelcome visitors of the medical man are large in number and various in sort. Whether what they effect bears any proportion to the strenuousness of their efforts or the irritation which they sometimes cause is doubtful.

MORETONHAMPSTEAD HOSPITAL.—The annual meeting of the subscribers to Moretonhampstead Hospital, Devon, was held on Jan. 23rd, the Hon. W. F. D. Smith, M.P., presiding. The medical report stated that 67 in-patients were treated, being an increase compared with the previous year. The financial statement showed that a favourable balance of £35 remained.

Annotations.

"Ne quid nimis."

PROPOSED UNION OF MEDICAL SOCIETIES.

AT a meeting of the representatives of the various societies held on Dec. 19th, 1905, an organising committee was appointed to draw up a definite and detailed scheme on the lines published in THE LANCET on July 29th, 1905, p. 310, after consultation and discussion with each society which has expressed its willingness to join under certain varying conditions. One of the first essentials is to show that the scheme is likely to be a financial success. A reply post-card has been posted by the honorary secretaries to over 5000 individuals asking for an immediate reply to certain questions as to the probability of their joining the new society as Fellows or members. We understand that a Fellow will be asked to pay £3 3*s*. per annum for the privilege of attending discussions at all sections, of the free use of the general library, and of receiving the proceedings and transactions of the society. A member of a section will be asked to pay £1 1*s*. per annum for the privilege of taking part in the proceedings of that section, of receiving its publications, and of using the general reading room. Such a member will be entitled to join other sections at a subscription of 10*s*. 6*d*. for each additional section and to join the general library at a subscription of £1 1*s*. Every member of a society taking part in the amalgamation who desires to become a Fellow of the new society or a member of the corresponding section will be entitled to do so without election. Individuals elected subsequently to the constitution of the new society will have to pay entrance fees. As far as can be seen at present only original members of a section and those who are subsequently elected members of it will have the power to vote on matters directly affecting the affairs of such a section.

THE GUILD OF THE BRAVE.

UNDER the above title we have received an article from Dr. Helen McMurchy of Toronto pointing out the extraordinary heroism exhibited by hospital patients as well as their keen sympathy in the plight of their fellow patients and, sometimes, in the labours of the medical men and nurses. Every visiting or resident medical officer must have noted this and Dr. McMurchy's words, addressed to an imaginary house surgeon, will have the force of truth. "Yesterday you lost a public ward patient," she writes, "and as you passed on your round from the bed of death to those whom death had spared a very sick man looked at you gently and, forgetting his own desperate plight, said to you softly, 'You are disappointed, doctor.' The sympathy of that brave man went far to make you go on with your work." Many house surgeons can remember instances where the sympathy of one patient with another has been of the most practical sort, and nothing delights an inmate of a hospital, as a rule, more than to be given some detail to attend to in the treatment of another inmate. We received from another correspondent this week an account of a recent occurrence in a large general hospital, and the episode has a similar bearing. Two men were working in a lift when it fell with them for a distance of about 50 feet. They were taken out and brought to the hospital. One died before he could be got up to the ward. The other, a shattered mass of humanity, was put to bed to see if anything could be done for him. On recovering consciousness he said to the house surgeon who was sitting by his bed, "How's my mate?" and five minutes later he had rejoined him. Perhaps the most signal proof of the courage of the average inmate of a hospital is the quiet manner in which he accepts the verdict of the surgeons as to the necessity for an operation. He comes to the hospital perchance because he has had difficulty with his bowels or because he has noticed that his urine is dark coloured. Two days later he is told that a "serious operation must be performed." He is very likely the bread-winner, and he makes up his mind that as he cannot work in his present condition he will face death. So he just tells his wife and resigns himself into the hands of those who, he feels, know better than himself. Truly to conduct such as this we may apply the words of Milton:

> "Nothing is here for tears, nothing to wail
> Or knock the breast, no weakness, no contempt."

"Our patients," says Dr. McMurchy, "are our masters in courage," and, indeed, to work in a hospital is to receive many a lesson in contentment, in patience under suffering, and in courage in bearing up in the most adverse circumstances. Well may Dr. McMurchy talk of the Guild of the Brave.

THE VOLUNTEER MOVEMENT.

A PROPOSAL has been put forward by Dr. F. Churchill before the Tactical Society of Edinburgh for utilising the services of the young men toilers in our crowded cities, many of whom are living in lodgings under very insanitary conditions, by providing accommodation for them in barracks designed and conducted very much on a club principle, similar in all respects to the "Rowton Houses." These should be erected in suitable and healthy localities where young men could be housed and boarded while they were being instructed and systematically drilled and trained. This has an important bearing also on the housing of the urban labouring classes. Supposing a convenient site in the suburbs of large towns to be selected for the erection of such buildings and the capital provided as a financial investment by philanthropic effort the Government might be asked to increase the capitation grant by 6*d*. a day (£9 2*s*. per head per annum) with the view of providing lodging for, and turning out, 50,000 efficient volunteers. Dr. Churchill considers that if this were done his project might be carried out at a relatively small cost to the State. It is needless to add that the scheme, if favourably viewed by the War Office, would have to be worked out very carefully, especially as regards its practicability and financial details, before its adoption.

THERAPEUTIC FASTING.

UNDER the heading of Common Colds in our issue of Dec. 23rd, 1905, p. 1854, we commented on a somewhat heroic method of treating colds recommended in America by Dr. Charles E. Page. We have since found that by a coincidence the American *Medical Record* of the same date contained an article by Dr. Page on the Curative Treatment of Pneumonia. He has also written to us from Boston expressing the opinion that pneumonia is mainly due to the use of "excessive clothing," and he proposes to treat it by a combination of hydrotherapy and fasting. His method of hydrotherapy consists of local cooling, not chilling by means of ice-packs but persistent cooling by a cold compress applied over the entire chest in front, the compress to be wetted with cold water as often as it becomes hot until the walls of the engorged blood-vessels have been braced to the point of resuming their normal calibre. When this stage of the treatment has been reached it is considered that the patient is convalescent and out of danger provided that his therapeutic fast is not prematurely broken. With regard to food, Dr. Page says that from the time of Hippocrates to our own day therapeutic fasting has been the sheet-anchor of every expert sick-room dietist in

all acute diseases. He never allows the ingestion of a morsel of any sort of food except water, or perhaps a little orangeade or lemonade, until the patient is practically convalescent. To milk he decidedly objects. Adults should have from two to four ounces of water at intervals varying from half an hour to two hours according to the amount and appearance of the urine. The water is given moderately hot and always with a placebo in some of the portions. Among his patients therapeutic fasts of five, eight, and ten days are not uncommon.

CANARDS AND CONSEQUENCES.

Mr. C. A. Ballance has recently had occasion to address a letter to the editor of the *Daily Mail* calling attention to the inconvenience that had been caused him by the insertion in that paper of a false statement that he had performed an operation upon the German Emperor. The editor of the *Daily Mail* inserted a correction without any apology for the mistake, giving Mr. Ballance's initials wrongly. We consider that Mr. Ballance has received scant courtesy from the *Daily Mail*. We saw the false paragraph, which we are informed was widely quoted, and we sympathise with Mr. Ballance in the disagreeable situation produced by its complete and reckless inaccuracy. In some of the versions of the story imagination went so far as to induce the writers to lay stress upon the great jealousy shown by German medical men towards English practitioners—an untrue special incident being used for the foundation of an untrue general conclusion. The most generous kindness is always shown to English medical men in Germany and in times when racial feeling is being used in many directions for political purposes such misrepresentations are particularly unfortunate.

DISSECTING ANEURYSM INVOLVING THE WHOLE AORTA.

DISSECTING aneurysm of the aorta is generally considered to be necessarily fatal. At the meeting of the Société Médicale des Hôpitaux of Paris on Dec. 29th, 1905, M. Maurice Letulle reported the following remarkable case which demonstrated that this condition may be compatible with life. A woman, aged 45 years, was admitted into hospital on August 5th, 1904. While in good health she was seized with breathlessness and a permanent feeling of constriction of the chest. She was taken to hospital in a state of grave dyspnœa. The præcordial pain was not intolerable and did not suggest angina pectoris. The dyspnœa, though well marked, was not accompanied by polypnœa or cough. The face was pale and had an expression of pain. The apex beat was strong and situated in the sixth intercostal space, about 12 centimetres from the middle line, denoting hypertrophy of the left ventricle. A thrill was felt at the base of the heart and in the great vessels arising from the aortic arch. The aortic arch was enlarged and pulsated energetically in the suprasternal notch. Percussion showed that its right border was three centimetres from the right border of the sternum. There were a double aortic murmur, Corrigan's pulse, and capillary pulsation in the nails. The urine was increased in quantity and contained a little albumin. The evident dilatation of the aortic arch and its branches led to the diagnosis of chronic aortitis complicated by valvular insufficiency. The patient's age suggested that the condition was due to syphilis. She had been pregnant seven times. The two eldest children were living and in good health. The next four had died at an early age and the last pregnancy terminated in abortion at the third month. Under rest, a milk diet, blood-letting, and theobromine the patient improved. After a fortnight slight hæmoptysis occurred and the dyspnœa and præcordial pain returned. The diagnosis of aneurysm was then entertained. Five days later the hæmoptysis recurred. In the meantime paralysis of the inferior part of the right facial nerve appeared. Towards the end of August there were cardiac irregularity, dyspnœa, oliguria, and increasing weakness, and the patient constantly complained of neuralgic pains in the flanks. Death occurred on Oct. 28th. The necropsy showed considerable hypertrophy of the heart. All the valves were normal. The aortic arch was much dilated but showed no sign of aneurysm externally. The surrounding cellular tissue was thickened and sclerotic (chronic peri-aortitis). Contrary to expectation, the aortic valves were normal and competent. An extraordinary condition of the aorta was found. A dissecting aneurysm extended along its whole length and also along the innominate artery to its bifurcation. The aneurysm originated in an orifice, of about the size of a 50-centime piece, situated three millimetres above the aortic valves. At the bifurcation of the abdominal aorta it terminated in another orifice, a transverse slit five or six millimetres long. Thus during life the circulation of the blood took place through the aneurysm. This "accessory aorta" was about 35 centimetres long, its calibre, except at its origin and termination, was equal to that of the thumb, its lining was smooth, and its cavity was empty, not containing even a trace of clot. Microscopic examination showed typical rupture of the elastic coats of the aorta into which the blood had percolated following certain pre-existing planes of cleavage. The irritation caused by the forcing of the blood into this "interstitial wound" had led to the formation of a new coat of connective tissue, extremely thick. Thus the resistance and permeability of the new channel were secured. M. Letulle thought that the exit furnished to the blood at the termination of the aorta was a "spontaneous cure," as the condition established was compatible with life. The other lesions found confirmed the hypothesis of syphilis. The spleen contained a large infarct, the result of old arteritis. The kidneys were cirrhotic and showed endarteritis. Similar changes were found in the vessels of the brain which were profoundly atheromatous.

FRAUDULENT FOAM.

FOAM is an undoubtedly attractive feature of many beverages which finds, perhaps, no better illustration than in the case of beer. Generally speaking the formation of foam on the top of beer is an indication that the beer is brisk as opposed to its being flat and stale, and since briskness is a wholesome quality of beer the appearance of a "head" upon its surface may be taken to be a sign that the beer is both palatable and suitable for drinking purposes. It is customary when pouring out beer from the jug to the glass to encourage the formation of foam by elevating the jug during the process so that the beer is gently splashed into the glass. If, then, foam is an indication of sound quality in genuine beer it seems to us to be a serious deception to manipulate a flat and possibly unsound beer with a "foaming mixture." The presence of a slight excess of carbonic acid gas in beer which gives to it a mild effervescent character is of distinct importance as a dietetic factor. Without this effervescence beer is prone to be indigestible and a beer-drinker instinctively avoids this beverage when it is "flat." The addition of a "foaming" mixture to beer therefore is calculated to destroy a useful and valuable means of discrimination and the consumer is thus not only deceived but his health may also be prejudiced by artificial foam. One, at any rate, of the substances employed to give a foam to aerated waters, and we have little doubt to beer as well, is saponin, very small quantities of which when added to water impart to it a frothy character. Now saponin is a glucoside, and glucosides

are, in the main, poisonous substances, and although the effect of very small doses may be inappreciable yet the presence of a poison in beverages in any quantity at all is highly objectionable. There is convincing evidence to show that saponin is prejudicial to health and therefore its use for the purpose of causing a beverage to foam is forbidden in the provisions of the Sale of Food and Drugs Acts. Saponin is prepared from the poisonous corn-cockle which is quite a common plant in our fields and often a source of considerable trouble to wheat farmers. Even if saponin were not poisonous the practice of making things not what they seem is fraud, and nothing but fraud, and even if perfectly innocuous substances are used for the same purpose the intention is obviously again to deceive and to produce a wretched imitation of the genuine article.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE following are the arrangements for the annual course of lectures to be delivered at the College. The lecture hour is 5 P.M. The Hunterian lectures will be delivered by Dr. C. G. Seligmann, F.Z.S., on the Physical Anthropology and Ethnology of British New Guinea, on Feb. 12th, 14th, and 16th; by Mr. H. J. Paterson on Gastric Surgery, on Feb. 19th, 21st, and 23rd; by Mr. Arthur H. Cheatle on Some Points in the Surgical Anatomy of the Temporal Bone from Birth to Adult Life, on Feb. 26th and 28th and March 2nd; and by Mr. J. Warrington Haward on Phlebitis and Thrombosis, on March 5th, 7th, and 9th. The Erasmus Wilson lectures will be delivered by Mr. James Sherren on the Distribution and Recovery of Peripheral Nerves Studied from Instances of Division in Man, on March 12th, 14th, and 16th. The Arris and Gale lectures will be delivered by Mr. J. H. Watson on the Viscosity of the Blood, on March 19th and 21st; and by Mr. Sydney W. Curl on the Arterial Pulse, its Physiology and Pathology, on March 23rd.

CONFLUENT VARICELLA WITH SECONDARY FEVER.

VARICELLA is generally an exceedingly mild disease but the rule is occasionally broken by the occurrence of serious complications, such as nephritis or gangrene. In the *British Journal of Children's Diseases* for January Dr. J. D. Rolleston has reported the following very rare case. A boy, aged five years, was admitted into hospital on Oct. 8th, 1903, with a typical attack of scarlet fever. General desquamation followed and the temperature subsided by lysis to subnormal on the 18th and remained so until the 26th, when it rose to 99° in the evening. On the next morning there were numerous papules and vesicles characteristic of varicella. At 10 P.M. the lesions numbered 160. At 11.30 A.M. next day the vesicles alone numbered 254. On the 29th they numbered 794. On the lower part of the back the eruption was confluent and on the limbs it was semi-confluent. Several of the lesions were multilocular and some showed umbilication. Most of the vesicles on the trunk ruptured, leaving a bleeding surface. The albumin in the urine, which had appeared a few days before the onset of the varicella, increased from a trace to a cloud. On the 30th the vesicles numbered 2185 and their distribution resembled that of confluent small-pox. There were œdema of the face and swelling of the fingers which increased this resemblance. The vesicles were distributed as follows: trunk, 574; genitals, 30; thighs, 511; legs, 197; feet, 185; arms, 394; hands, 147; neck, 93; face, 50; and scalp, 4. There were several lesions on the hard palate. Hæmorrhage took place into a few of the vesicles on the left forearm, the right knee, and the left ankle. On the 31st desiccation and incrustation were commencing. Many of the vesicles had become pustules, especially on the back. On Nov. 2nd the temperature fell by crisis and for about a week it remained normal. Desiccation was not complete until the 10th, when many of the scabs on the trunk had separated. Their copious exfoliation and the associated fœtor were additional points of resemblance to small-pox. From Nov. 9th to 19th there was pyrexia due to suppuration beneath the scabs, which on separation left punched-out ulcers. By Dec. 4th all the scabs had separated and the child was discharged in good health on the 10th. The skin presented numerous scars showing various degrees of pigmentation. Very few cases of confluent varicella have been recorded. The absence of prodromal symptoms, the appearance of fully developed vesicles on the first day, the successive crops, and the shape of the lesions proved that the disease was varicella. The vesicular hæmorrhages entitled the case also to be termed hæmorrhagic varicella. Secondary fever in varicella has been described particularly by French writers.

THE MODE OF PRODUCTION OF SILKWORM GUT.

AN interesting account of the history and mode of production of silkworm gut has been published by M. J. Triollet in the *Bulletin des Sciences Pharmacologiques* (1905, No. 5). It is obtained from the silk-producing glands of Bombyx mori at the time when the larva commences to spin. It has been known from very early times but was used for fishing purposes only until 1865, when Dr. Passavant of Frankfort-on-Main employed it in surgery. His example was later followed in this country by Mr. T. Bryant and Dr. Granville Bantock. Mr. Bryant, in the edition of his "Surgery" published in 1874, mentioned his experiences in the use of this ligature and recommended it for "quill sutures." Dr. Bantock employed the gut at first as a ligature for arteries and then as a suture. Silkworm gut is tenacious, flexible, and easy to tie in a surgeon's knot, and does not cut the tissues as is the case with metallic threads. Owing to its smooth surface it can readily be sterilised and removed from the patient without causing undue pain. It is rarely employed, however, as a buried ligature, being almost exclusively used as a suture owing to the impossibility of making with it so tight a knot as with silk or catgut. Although Italy produces large quantities of silkworm gut for fishing the surgical thread comes chiefly from the province of Murcia in Spain. The manufacturers supply the peasants with boxes containing an ounce of the eggs, sufficient to produce about 40,000 silkworms. These are hatched during April and May when the mulberry leaves begin to appear. The incubation occupies seven days at a temperature of from 22° to 30° C. The silkworms are microscopical at first and attain their full size in 24 days, moulting four times in succession. The longest and most vigorous are then set apart and carefully watched. When they manifest signs of beginning to spin they are killed by plunging them in a large tub of water acidulated with vinegar or citric acid, in which they remain from 12 to 15 hours. The dead silkworms are then taken one by one by women, who make a longitudinal incision along the back and carefully withdraw the intestine, stomach, œsophagus, and probably the greater part of the muscular and vascular tissue. They then isolate the two silk-producing glands and wash them with hot water. The glands are then manipulated by women specially skilled in the work who hold each gland by its ends and draw it out so as to produce one thread which is placed on a polished marble or granite table. In contact with air the thread rapidly dries and acquires a more or less blood-red yellow colour. This crude silkworm gut is then sold to the manufacturer and further treated. It is first boiled in alkaline water to remove fat and blood and is then dried in the sun, being protected from dust. It is next polished by means of slightly oiled pumice stone with an apparatus the secret of

which is jealously guarded. The gut is then bleached with sulphurous acid and rubbed vigorously with chamois leather to remove dust and sulphur. The threads are finally sorted according to their thickness into five grades, varying from a tenth to half a millimetre in thickness. These five grades are known respectively as "very fine," "fine," "medium," "thick," and "extra thick." The two extreme sizes are rarely used. The fine threads should resist a mean pull of 2·5 kilogrammes, the medium threads 4 kilogrammes, and the thick threads 6 kilogrammes. A length of from 30 to 32 centimetres is suitable for surgical use. The gut is coloured by soaking for an hour or two in a solution of fuchsine or methylene blue and subsequently by washing thoroughly to remove excess of dye. In order to render it supple it is immersed for about six weeks in an antiseptic solution, usually a solution of phenol containing a little glycerine. Finally, the gut is sterilised in closed flasks containing an antiseptic solution in an autoclave at a temperature of 120° C. for half an hour. Silkworm gut so prepared varies much in quality, according to the thoroughness of the treatment to which it has been subjected. It loses its firmness on keeping. The annual production of silkworm gut in Spain is about 150,000,000 threads, the preparation of which provides employment for from 4000 to 5000 persons; the total value amounts to from 2,000,000 to 3,000,000 francs.

MEDITERRANEAN FEVER IN SOUTH AFRICA.

WE have received a reprint of a paper by Lieutenant-Colonel C. Birt, R.A.M.C.,[1] in which he concludes that Mediterranean fever is now endemic in certain parts of the Orange River Colony and that its further spread is likely to occur. Attention was drawn to the matter by some observations of Dr. P. D. Strachan[2] of Philippolis, Orange River Colony, on 72 cases of prolonged pyrexia which came under his care during a period of 18 months. The clinical features of the cases suggested to him the diagnosis of Mediterranean fever and in order to confirm this view he sent blood from 34 of his cases to the Government laboratories in Cape Town and Grahamstown. Of these, 25 gave an agglutination reaction with cultures of the micrococcus Melitensis in dilutions varying from 1 in 10 to 1 in 50. These results were the more remarkable since, apart from imported cases of Mediterranean fever, none of the cases of prolonged fever in the military hospitals at Harrismith, Bloemfontein, and Pretoria have suggested that disease, and in all the cases in which agglutination tests have been made with the micrococcus Melitensis, the results have been negative where trustworthy cultures have been used. It is well known that cultures which have been isolated for some time give results which cannot be relied on, since they become much too sensitive to the agglutinins present in normal blood. On the other hand, Colonel Birt and Captain G. Lamb[3] have shown that with recently isolated cultures a complete reaction at a dilution of 1 in 10 or over implied Mediterranean fever past or present, and further, that this agglutinating power persists for months, or even years, after the disease has subsided; in one of these cases they obtained the reaction seven years after the attack. In order to subject Dr. Strachan's cases to a more stringent test Colonel Birt obtained samples of blood from a number of them and tested them with progressive dilutions of recent cultures and in every case he obtained a positive reaction, in some of them with dilutions of 1 in 1000. He therefore concludes that all these cases were actually Mediterranean fever. Dr. Strachan's partner, Dr. D. M. Macrae, has informed Colonel Birt that he has seen similar cases in Fauresmith and Koffyfontein, and Springfontein and Bethulie have also presented cases of the disease. Dr. Strachan is of opinion that infection has been spread by goat's milk which is largely used in these districts. The subject is one which requires further investigation, since if this disease proves to be endemic in these districts it will be necessary to take active measures to prevent its spread. The actual demonstration of the organism in the blood of these cases has apparently not yet been made and Colonel Birt very rightly suggests that a search for it should be undertaken in doubtful cases of fever in the district.

[1] Journal of the Royal Army Medical Corps, January, 1906.
[2] South African Medical Record, August 15th, 1904; Brit. Med. Jour. July 15th, 1905.
[3] THE LANCET, Sept. 9th, 1899, p. 701.

WHAT IS WHISKY?

THE proceedings at the North London police court last Monday furnished very little evidence that could be said to be of particular interest or to possess any fresh feature. Sir James Dewar was recalled and gave some figures referring to the effect of age on whisky. He said that experiments showed that the longer a whisky was kept in wood the greater the increase in the impurities. (Readers of THE LANCET may remember that this fact has been pointed out in our columns as the result of a number of analyses made in THE LANCET laboratory.) In cross-examination Sir James Dewar admitted that for drinking purposes whisky was better for being older. Mr. William Saunderson, representing the North British Distillery Company, Edinburgh, said that to their customers they described patent-still spirit as grain spirit and pot-still spirit as whisky only. Asked whether he would have any objection to stating on the bottle that whisky is pot-still or grain, as the case may be, the witness thought that it might be done but that it "would not always convey anything." The difficulty would be to exercise control over the publican who bought the whisky in bulk. This witness agreed with another distiller that the public knew very little as to how or from what materials whisky was made. The hearing was again adjourned.

HYGIENE AT THE MILAN INTERNATIONAL EXHIBITION.

THE International Exhibition by which it is intended to celebrate the opening of the Simplon Tunnel was first meant to illustrate the past history and the modern development of the means of transport. Even this restricted programme included several questions of great interest from the point of view of health. The most obvious of these is the warming and ventilation of railway carriages. Then there is the great problem of food-supply—that is, the transport of live cattle and the railway cold storage cars for fish, meat, vegetables, beer, and other alimentary substances; medical examination, quarantine, disinfection of passengers and cattle vans and wagons—all these and many other public health problems form part of the general question of transport and travelling. But the programme has been enlarged. The exhibition will be held at Milan. An area of 840,000 square metres is secured and about a quarter of this space will be built upon. Here visitors will find what promises to be an attractive fine art section. Then there are sections on decorative arts and a working hall for industrial arts. There will be sections for agriculture, fishery exhibits, meteorology, aeronautic exhibits, social reform organisations, public hygiene, and, finally, a special exhibition of all that relates to the multifarious endeavours made to reduce the prevalence of pulmonary tuberculosis. The Italian executive committee, we are informed, is especially anxious to give great prominence to all questions connected with tuberculosis and to secure international coöperation in bringing forward all that bears upon the subject. The sanitary

appliances in the production of which British manufacturers have held the first place would serve as useful object lessons, particularly as in Italy there is a growing market for these health-protecting products. This will be the first international exhibition of hygiene ever held in Italy and it should prove an excellent opportunity for showing how hospitals, sanatoriums, factories, workshops, private dwellings, and public buildings can be equipped with appliances for draining, warming, or ventilating such places in a satisfactory manner. The exhibition will be open from April to November this year and already more than a hundred national and international congresses are announced as about to meet at Milan during this period; one of these congresses will be devoted to the question of tuberculosis.

UNIVERSITY COLLEGE, LONDON.

A COURSE of eight lectures on Physiological Optics is being given in the physiological department of University College by Mr. J. Herbert Parsons on Fridays, at 5 P.M., the first lecture having been delivered on Friday, Jan. 26th. The syllabus is as follows. Lecture I.: Elementary optics—reflection, mirrors, refraction, prisms, and lenses.—Lecture II.: The eye as an optical instrument—the homocentric system and the dioptric system of the eye. Lecture III.: Ophthalmometry. Lecture IV.: Ametropia—myopia, hypermetropia, astigmatism, and aphakia. Lecture V.: Ophthalmoscopy and retinoscopy. Lecture VI.: Visual perceptions—light sense, colour sense, and form sense. Lecture VII.: Accommodation and binocular vision. Lecture VIII.: Muscle balance and strabismus. The lectures are open to all students in London medical schools and also to qualified medical men on presentation of their cards. Professor E. A. Minchin will commence on Monday, Feb. 5th, a course of lectures on Parasitic Protozoa. Professor Minchin has recently returned from Uganda, where he has been engaged, as one of the special commissioners of the Tropical Diseases Society of the Royal Society, in research on the life-history of the trypanosome of sleeping sickness.

MEDICAL PRACTITIONERS AND THE NOTIFICATION OF INFECTIOUS DISEASES.

AN action recently brought against Dr. Louis Stamm, practising at Streatham, for negligence illustrates the extreme hardship imposed upon medical men by the law which lays them open to prosecution if they delay in notifying, or fail to notify, cases of dangerous infectious disease, while it affords them no protection against patients who consider themselves aggrieved by the notification should the diagnosis not be confirmed at the isolation hospital. In the case of Dr. Stamm a female patient, who had eaten shell-fish at Margate, became unwell, and after he had attended her for ten days he notified her case as one of typhoid fever. She was detained at the South-Western Fever Hospital for 17 days and there at some period subsequent to her admission the opinion was arrived at that her condition was due to influenza and not to typhoid fever, of which she became aware before, or at the time of, her discharge, with the result that she brought an action against Dr. Stamm founded upon his alleged mistake. There was no evidence whatever that he had been negligent and the medical officers of the hospital called on behalf of the plaintiff naturally and properly expressed their opinion that the defendant's conduct in notifying the case as one of typhoid fever had been perfectly correct. Dr. F. F. Caiger, the medical superintendent of the hospital, who had been absent and had not himself made the diagnosis of influenza, was a witness and said that, having heard the story of the shell-fish and of the symptoms which the plaintiff was stated to have exhibited, he considered Dr. Stamm to have acted rightly in notifying that she was suffering from typhoid fever. It was, in fact, a doubtful case and quite possibly was one of typhoid fever after all. The damage suffered by the plaintiff was apparently described as nervous shock due to her detention in the hospital and injury to her property occasioned by the disinfection of her flat. In these circumstances it is not surprising that the county court judge, the Hon. Arthur Russell, stopped the case without the defendant being called upon to make good his defence, and he is to be congratulated upon having done so firmly and decisively in such terms as left no doubt as to his view of the plaintiff's conduct. He also marked his sense of this by ordering the costs to be paid on what is known as the C Scale, so that so far as possible the defendant will be indemnified for his necessary expenditure in resisting the claim against him. Perhaps Dr. Stamm would have preferred the opportunity of justifying his diagnosis in the witness-box but, be this as it may, the real lesson of the case lies in the fact that he had to undergo all the anxiety and expense of preparing his defence, however shadowy or non-existent the case of the other side might be. It is submitted to the good sense of the community that in its own interests and in those of justice actions such as this should not be permitted and that the medical man should be absolutely protected until a strong *primâ facie* case can be made out against him, pointing not to erroneous diagnosis but to negligent and unskilful conduct resulting in a mistake which the exercise of ordinary professional skill and care would have prevented.

FEEBLE-MINDEDNESS IN CHILDREN.

THE growing literature upon the subject of the feeble-minded is indicative of the increasing interest which is being taken in this matter by medical men and educationists. There is abundant scope for the collection of scientific data in respect to the history and diagnosis of cases of feeble-mindedness in children upon which to found a rational system of education and care. To this subject Dr. C. Paget Lapage makes a contribution in the *Medical Chronicle*, 1905, based upon the examination of 258 feeble-minded children of Manchester who were pupils or would-be pupils of special schools, inmates of the home of the Lancashire and Cheshire Society for the Permanent Care of the Feeble-minded, or patients at the Children's Hospital, Manchester. The following were the etiological factors most commonly noted in these cases: a history of non-epileptic convulsions or one of epileptiform convulsions in the child; a family history of tuberculosis, of feeble-mindedness, of insanity, or of epilepsy; a parental history of alcoholism; and a maternal history of some abnormality during pregnancy. The various factors were usually found in combination. In regard to physical anomalies in the feeble-minded child Dr. Lapage found that out of 200 children examined 181, or 90·5 per cent., exhibited various "stigmata of degeneration." These are stated to occur much more frequently in the feeble-minded than in ordinary children and usually in combination, whereas in the ordinary school child single defects are more common. The question of the frequency of occurrence of such stigmata in the insane and mentally defective, as compared with normal individuals, and of the relative significance of the various stigmata is in need of elucidation. There is here a wide field for inquiry. In the cases recorded the head appears to have been examined more especially and attention is drawn to the frequency of occurrence of the following conditions: smallness of the maximum circumference, asymmetry, deficiency of the posterior part of the skull as compared with the anterior, defects of the external ear, and defects of speech and of facial expression. "Fentural" defects are stated to be hard to classify or to describe but are regarded

as constituting one of the most common and noticeable of the abnormalities exhibited by feeble-minded children, and their combined effect is thought to constitute one of the greatest aids to diagnosis. The inquiry further showed that the feeble-minded are smaller and more poorly developed physically than ordinary school children, the disparity increasing with age.

HONG-KONG COLLEGE OF MEDICINE FOR CHINESE.

THE Hong-Kong College of Medicine for Chinese was founded in 1887, largely through the efforts of Sir Patrick Manson, Mr. James Cantlie, the late Rev. Dr. Chalmers, and the late Dr. William Young, for the purpose of teaching medicine, surgery, and midwifery to Chinese and such others as might avail themselves of the instruction given. The College has its headquarters in the Alice Memorial Hospital and the affiliated Nethersole Hospital is also open to students for purposes of clinical study. Students before matriculation must pass a preliminary examination in English, Latin, or classical Chinese, geography, elementary mathematics, and one modern language. The course of study extends over five years and includes more subjects than were required in English schools 50 years ago; the examination papers are also quite up to the English standard of that day and moreover contain questions on such quite modern topics as the treatment of appendicitis, the microbial pathology of various diseases, the examination of blood-stains, sphygmography, the theory of chemical valency, and the respective significance of free and albuminoid ammonia in drinking-water. Candidates on passing receive the diploma of Licentiate in Medicine and Surgery of the Hong-Kong College of Medicine for Chinese (L.M.S.H.). The teaching staff includes 16 lecturers, of whom 13 hold British qualifications. There were 35 students on the roll in December, 1905, and five diplomas were granted during the year then completed.

PATHOLOGICAL GLUTTONY.

THE literature of depraved appetites is considerable and is discussed at some length in Gould and Pyle's "Anomalies and Curiosities of Medicine." Morbid appetite most commonly manifests itself in the tendency to eat filthy or loathsome food, and this tendency again is allied to fetish worship. Many savages, for instance, consume their own excrements and assign ritual or religious reasons for this act. The human urine and fæces are by them regarded as containing the soul, and to devour them is to become repossessed of a sacred trust. That form of savage cannibalism which enjoins the eating of kinsmen and parents is based on the same grounds of reasoning. It is a question, however, whether cannibalistic and ordure-eating savages do not really derive their instincts from the lower animals. Dogs have notoriously depraved appetites. Some famous gluttons have certainly seemed to be casts-back to the lower carnivora. Such was "the Great Eater of Kent," affectionately eulogised by Taylor the Water-Poet. This Man of Kent was seen by Taylor to make a meal of a whole calf. He was admired in his day as a supreme instance of a jolly fellow, but his feats were such as to suggest the morbid and abnormal. Tarrare, a Frenchman, who died at Versailles, aged 26 years, during the latter half of the eighteenth century, was perhaps the most prodigious and revolting of those instances of what might be called pathological gluttony. He ate "a quarter of beef in 24 hours," and could quickly assimilate large serpents. Lorenze saw him devour a cat, the hairs of which he voided after an interval of half an hour, much as a bird of prey might do. This man was manifestly a reversion to type. Of his family, although less sensational in their cravings, are the earth-eaters, wood-eaters, chalk-, peat-, bog-, insect-, and perhaps even seaweed-eaters, while the chewers and the whittlers may be said to belong to the same morbid category.

THE HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON.

AN important and valuable innovation is proposed to be introduced at the Hospital for Consumption and Diseases of the Chest, Brompton. A joint sub-committee of the committee of management and of the medical committee has been appointed to draw up a scheme whereby it is hoped the economic value of the hospital may be considerably increased. At the present time a lady almoner is appointed to attend in the out-patient department in order to render assistance in various ways to those patients who require it. It is now proposed to extend this department and so to make an endeavour to reach the patients in their own homes, to superintend the hygienic precautions which are necessary to prevent the spread of tuberculosis, and to make inquiries as to the state of health of those members of the patients' families who are dwelling in the same house. It is suggested that patients should be invited to bring other members of their families to the hospital so that they may be examined for evidences of tuberculosis. By pursuing such measures as these the work of the hospital will be rendered even more valuable than it is at present. As we have frequently pointed out, it is only by educating the public in the elementary laws of hygiene that any satisfactory stand can be made against the spread of tuberculosis. We trust that the endeavours which the Brompton Hospital hopes to make in this direction will be generously supported by the public, for considerable expense will be incurred if the proposals now being considered are to be carried out in a thoroughly satisfactory manner.

THE GERMAN SURGICAL CONGRESS.

THE thirty-fifth congress of the German Surgical Society will be held in Langenbeck House, Ziegelstrasse, Berlin, from April 4th to 7th. Members who by March 20th have paid their subscriptions for 1906 to Herr Melzer (Berlin N., Langenbeckhaus, Ziegelstrasse, 10/11) will receive their cards of membership by post. These cards may also be obtained at Herr Melzer's office in Langenbeck House on April 3rd and 4th but it is recommended that they should be procured in advance. The proceedings will commence with a general meeting for the transaction of miscellaneous business at 10 A.M. on April 4th and there will be a second general meeting in the afternoon of April 6th. Intimations of discourses or demonstrations should be sent not later than March 3rd to Dr. W. Körte (Berlin W. 35, Potsdamerstrasse 39), together with a short synopsis and a precise statement whether a discourse or a demonstration is intended. Communications arriving at a later date can only be accepted if time permits. Patients arriving from abroad can be accommodated in the Royal Surgical University Clinic, Nos. 5–9, Ziegelstrasse. Preparations, apparatus, and instruments should be sent to Herr Melzer at Langenbeck House. An evening will be set apart for demonstrations of the Roentgen rays if sufficient material is forthcoming. The Congress dinner will take place on April 5th at the Savoy Hotel, Friedrichstrasse. Intending members should communicate with Dr. W. Körte, sending introductions from three members, and will be admitted at a committee meeting to be held on April 3rd. The following subjects have been selected for discussion at the Congress: (1) questions in military surgery, illustrated by the experience of the Russo-Japanese war; (2) the surgical treatment of ulcer of the stomach; (3) the further development of a high operation in cancer of the rectum; and (4) Bier's method of treating acute inflammation by vascular engorgement. The time

limits are 15 minutes for a discourse and five minutes for either a demonstration or a speech at a discussion. The reading of printed or written matter is only allowed by special permission of the president.

THE CLIMATE OF ST. MORITZ.

WE have received a pamphlet with the above title and written by Professor A. Nolda, one of the resident physicians at St. Moritz, with the collaboration of M. C. Bührer, director of the Swiss Meteorological Station, Montreux. It is pointed out that the particulars previously published regarding the climate of St. Moritz have been chiefly based on observations made at Sils-Maria and Bevers, there being no continuous meteorological records for recent years at St. Moritz, but both the places named, especially Bevers, have a climate different in important respects from that of St. Moritz. Some interesting details are afforded in respect to the atmospheric pressure at St. Moritz, the temperature of the air, the relative moisture, the rainfall, overclouding and insolation, the duration of sunshine, and the prevailing winds. The pamphlet ends with words which we hope will not be substantiated by those responsible for the management of internal affairs at St. Moritz: "In one point St. Moritz has, with sagacious foresight, itself restricted and narrowed its indications—*St. Moritz declines to become a sanatorium for consumptives and will therefore not receive any patients suffering from tuberculosis of the lungs.* We sincerely trust that this wise decision, so necessary for the further development of St. Moritz, will be strictly carried out!" (The italics are as they appeared in the pamphlet.) We are of opinion that a great mistake will be made if such proposals are actually brought into force. Not only will a valuable therapeutic measure be denied to sufferers from tuberculosis but we believe that the authorities responsible for the enactment will have cause to repent their action. The climatic conditions of St. Moritz are admirably suited for the treatment of tuberculosis and there is no trustworthy evidence that the assemblage of patients suffering from the disease in any way affects the health of the community if suitable arrangements are made for the disposal of the sputum.

THE MEETING OF THE BRITISH MEDICAL ASSOCIATION IN TORONTO.

OUR Canadian correspondent writes:—The medical profession in Toronto is working hard to secure a successful meeting for the British Medical Association in that city from August 21st to 25th. The various committees are doing all in their power to make everything run smoothly and Dr. Reeve, the President-elect, of the medical faculty of the University of Toronto, has the loyal support of his colleagues. The honorary local secretaries are Dr. F. N. G. Starr, Dr. D. J. Gibb-Wishart, and Professor J. J. McKenzie, and anyone who desires any special information should apply to them at the Medical Building, Queen's Park, Toronto. It has been announced that the address in medicine will be delivered by Sir James Barr and the address in surgery by Sir Victor Horsley. The scientific part of the meeting will be conducted in 12 sections. Those going to Toronto will be assured of an enjoyable visit and afterwards they may judge of Canadian hospitality. The city has several fine hotels and the accommodation will be first-class. There will be excursions to Niagara Falls, to Muskoka, and to the Rocky Mountains. The last are nearly 3000 miles away but Canadians think nothing of that. The climate is the equal of any in the world. Toronto itself is an exceptionally fine city; its weather is delightful and this season there has not so far been any snow. It has numerous fine public buildings, a beautiful harbour and island resort, as well as steamboat connexion with all the prominent health resorts. Intending visitors may be recommended to see Halifax, the Annapolis and the Matapedia valleys in the Maritime provinces; Quebec city and Montreal and the noble St. Lawrence in the province of Quebec; Ottawa, the capital, with its Parliament buildings; the Thousand Islands, Toronto, and Niagara Falls in Ontario; Port Arthur, Winnipeg, and the great wheat belt of Manitoba; and the Rocky Mountains, Vancouver, and Victoria in British Columbia.

THE medical officer of health of Cape Colony reports that for the week ending Dec. 30th, 1905, the condition of the colony as regards plague was as follows. No case of plague in man or other animal was discovered anywhere throughout the colony except at Port Elizabeth, where 2 plague-infected mice were found. For the week ending Jan. 6th, 1906, the colony was also free from plague except for 1 plague-infected mouse at Port Elizabeth. As regards the Mauritius a telegram from the Governor received at the Colonial Office on Jan. 26th states that for the week ending Jan. 25th there were 1 case of plague and 1 death from the disease.

A COURSE of ten lectures on the Physical Chemistry of Colloids (with special reference to immunity) is being delivered at the London Hospital Medical College, Mile End, E., on Fridays at 4 30 P.M., by Dr. J. A. Craw (British Medical Association Research Scholar). Lecture III., which will be delivered to-day (Friday, Feb. 2nd), will deal with various properties of colloids, ultramicroscopic investigations, diffusion and filtration phenomena, and the influence of light, heat, and electricity. Any member of a London school of medicine may attend this course.

THE Lettsomian lectures for 1906 of the Medical Society of London, on Some Points in the Surgery of the Brain and its Membranes, will be delivered by Mr. Charles A. Ballance, on Feb. 5th and 19th and March 5th, at 9 P.M. Lecture I. will deal with Some Points in the Surgery of Meningitis, Lecture II. with Some Points in the Surgery of Brain Abscess, and Lecture III. with Some Points in the Surgery of Brain Tumour. The lectures will be illustrated by lantern slides.

AN International Congress of Laryngology and Rhinology is announced to be held at Vienna in 1908, the date, already selected, being from April 21st until the 25th (Easter week). The date is selected as it is the fiftieth anniversary of the establishment by Türck and Czermak of a course of systematic study of laryngology in Vienna.

THE first of a course of lectures on Food and Nutrition will be delivered at the Royal Institution, Albemarle-street, W., on Tuesday, Feb. 6th, at 5 P.M., by Professor William Stirling, Fullerian professor of physiology at the Institution.

BY the will of the late Mrs. Gant, the wife of a former president, a sum of £100 has been left to the Medical Society of London.

A FEW REMARKS UPON THE REPORTS OF THE MALTA FEVER COMMISSION.

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THE Government Commission on Malta Fever working at Malta under the supervision of the Royal Society has issued three important reports which have been read with great interest by all who have studied the disease. There are, however, some points which require discussion in connexion with the theory, to which Surgeon E. H. Ross, R.N., and I

have been led by a process of exclusion, to the effect that the infection may possibly be conveyed by the mosquito acartomyia Zammitii. I wish particularly to examine some of the experiments of the Commission which tend to lead in another direction—namely, that infection may be acquired through the respiratory or digestive tract—but which appear to be not so conclusive as might be inferred from the reports.

I will commence at p. 46 in the first publication. Here, in Experiment I., we find a description of an attempt "to determine if the inhalation of dust infected with micrococcus Melitensis will give rise to Mediterranean fever in healthy monkeys." We are told that on July 10th, 1904, monkey No. 41 was placed in a cage and "infected dust blown around him." (This dust was mixed with living cultures of the micrococcus Melitensis.) 24 hours later infected dust was again blown round the monkey and when an hour had elapsed the animal was taken from the cage, which was then disinfected. The skin of the monkey, which must by then have been liberally sprinkled with living micrococcus Melitensis, was apparently *not* disinfected; at any rate, no mention is made of such precaution being taken. For a month or so the same procedure was continued daily. On Sept. 6th the monkey was found to be suffering from Malta fever and the result arrived at by the Commission was that "this experiment seems to show that inhalation or ingestion of infected dust will give rise to the disease." Now we know that these animals spend much of their time in scratching themselves and it therefore follows that during this experiment monkey No. 41 may have been repeatedly inoculating himself by scratching living Micrococci Melitenses into irritated portions of his integument, which must have been in a very infectious condition, so that the result of this experiment may very probably have been merely an example of the contraction of the disease by inoculation. It is therefore quite possible that the conclusion arrived at by the Commission is not warrantable.

Again, under the heading "Experiment II.—to Determine if Injection of Dust Infected with Micrococcus Melitensis into the Nostrils and Throat will give rise to Mediterranean Fever in Healthy Monkeys," we read: "Monkey No. 47—July 9th—injected dry dust containing micrococcus Melitensis into both nostrils." The injection was repeated on the 10th, 11th, 12th, 13th, and 14th. "29th.—Injected dried infected dust into back of throat; lips covered with cloth and tube passed through a wooden gag." This procedure was repeated daily until August 8th, on which day the monkey was found to have contracted Malta fever and we read: "Result.—From this and the last experiment *it is evident* [the italics are mine] that the inhalation and swallowing of infected dust will give rise to Malta fever in monkeys." Let us review this experiment. First of all let it be noted that for six consecutive days dust mixed with living micrococcus Melitensis was injected into the nostrils. The dust probably irritated the nasal mucous membrane, so that mucus containing living micrococci would run on to the lips, &c. Also the posterior nares must have been swarming with living micrococci and probably inflamed by the repeated dust injections. Both at this time and later, when from July 29th to August 8th daily injections into the back of the pharynx were carried on, I take it the mouth was also in a continually infectious state, so that the precautions adopted with the gag and cloth might have been futile because, as admitted in a note written on August 9th, there was "a very small abrasion" on the skin of the lower lip. I therefore suggest that the result of this experiment does not appear to justify the conclusion that "it is evident that the inhalation or swallowing of infected dust will give rise to Mediterranean fever in monkeys." It is well known that the disease is inoculable and I think that some undiscovered crack or abrasion of mucous membrane is almost sure to be infected when such enormous and unnatural quantities of infected material are used repeatedly over a considerable length of time.

Turning now to Experiment III., we find that monkey No. 39 was fed for *32 consecutive days* upon pure cultures of micrococcus Melitensis mixed with boiled potatoes, the feeding having been commenced on July 10th and discontinued on August 10th, on which date the animal's blood was found to give a marked agglutination reaction for micrococcus Melitensis. Later the monkey was killed with chloroform and the organism was recovered from the spleen. After a description of the experiment and result we read: "Result.—The absorption of M. Melitensis was extremely slow, but the monkey eventually suffered from an acute infection." I do not follow this argument. Had the monkey been fed *once* and contracted the disease 32 days afterwards, it could have been understood and have been admitted that the absorption was slow, or the incubation period possibly 32 days. But owing to the way the experiment was carried out it seems at least as likely that the monkey escaped infection until (say) August 2nd, giving an incubation period of about eight days only. This would be a different thing from "slow absorption" and I mention it as an important point in the investigation of the disease. Again, if the possibility which I have suggested be the right one it may be seen that the monkey might have swallowed pure cultures mixed with potatoes for about 24 consecutive days without becoming infected and this circumstance would then be a very strong argument against the theory of infection by the gastro-intestinal tract. The pitcher being taken so often to the well may have broken, so to speak, on the day when a lesion of the mucous membrane appeared.

In a description of Experiment V. we read: "13th August, 1904. This monkey is in a box next to monkey 39 and I noticed, about a week ago, that he ate some of the infected potatoes provided for No. 39. Examined blood serum; reacts instantaneously. This experiment is probably an instance of direct absorption of M. Melitensis through a crack or abrasion of the mucous membrane of the mouth; the period of incubation and the wave of fever correspond exactly with monkey No. 72 which was infected with M. M. through a crack in the mucous membrane over the incisor tooth." If infection was contracted through a crack in this case, why not in the other cases?

During September, 1904, several of the monkeys kept for experimental purposes contracted the disease without apparent cause. Major W. H. Horrocks, R.A.M.C., says in his remarks that this is probably due to infection conveyed from neighbouring monkeys. As diseased and healthy monkeys were kept on the same terrace close to one another, and mosquitoes also had free access to them all, this certainly seems to be very likely. Continuing his remarks, it is said: "On the other side of monkey No. 46 is monkey No. 47 infected by dust blown into the throat—evidently this monkey has become infected, either by personal contact, by urine, or by means of stegomyia." But why stegomyia in particular? Other species of mosquitoes had access to the animals.

Many other feeding experiments of the same kind were carried out, and it seems to me that the objections given above are applicable to them all. These are: (1) the monkeys were not isolated; (2) mosquitoes had access to them; and (3) it is impossible to say that the mucous membrane of the mouth and pharynx was free from lesions. With regard to Experiment VI., "to differentiate between absorption from the mouth and throat, and absorption from the stomach and intestines." In this experiment infected milk was passed into the monkey's stomach by means of an indiarubber tube. After the milk was introduced to the stomach the tube was presumably hauled up again, so that the end of it, being smeared with milk and micrococci, must have almost certainly infected the œsophagus, pharynx, and mouth. I would suggest that the stomach should be infected by means of *capsules* containing the emulsion pushed down the œsophagus by means of a bougie (under chloroform if necessary). The capsules would dissolve in the stomach and the upper tract would not be infected.

From the "conclusions" set down at the end of Section 4 I quote the following: "Infection by means of urine secreted by cases of Mediterranean fever readily explains the cases of Mediterranean fever which appear to arise spontaneously in hospitals." I do not agree with this conclusion because fresh cases do not arise in Haslar Hospital, where old cases have been kept in the wards for many years. It is only in hospitals in the endemic area that cases arise "spontaneously." Surely this is a most important point.

In Section 5 a description is given of methods for cultivation of the micrococcus Melitensis from the blood of patients as carried out by Staff Surgeon R. T. Gilmour, R.N. At the end of this description we read the following remark by the editor: "It is evident from Staff Surgeon Gilmour's experiments that the M. Melitensis is present in the majority of cases examined. Their number is, however, so small that it seems extremely doubtful if the disease can be carried by biting insects."

The smallest amount of blood from which the Commission succeeded in isolating the micrococcus is, according to its account, $\frac{1}{2}\frac{1}{5}$th of a cubic centimetre, or approximately four cubic millimetres of blood. I do not, however, agree that this excludes the possibility that the disease can be conveyed to a mosquito in a smaller quantity of blood. On the contrary, it seems obvious that the mosquito has only sucked up enough blood to convey one micrococcus to its stomach in order to transmit the disease and I would suggest that the scarcity of micrococci in the blood of patients (which is not after all very great) explains why the disease is not contracted by everyone who comes to Malta, as patients are nearly always bitten by hosts of mosquitoes. It is to be noticed that later in the report this escape of the many is mentioned as an argument against the mosquito theory of transmission but, as I have shown, it is really just as strong an argument in its favour. I think also that a mosquito may on occasion suck up more than four cubic millimetres, while, lastly, it is obvious that if a hundred mosquitoes bite a patient suffering from Mediterranean fever, which surely often happens, the total amount of blood abstracted by them is likely to be much more than the four cubic millimetres and may possibly amount to several hundreds of cubic millimetres, so that in this case not one but many of the insects may become infected.

I now come to Part II. of the report. On p. 46 we read: "Milk is not so closely connected with water in Malta as it is in most other countries, because the great majority of people get their milk-supply in their own vessels direct from the goat." I do not understand why vessels should not become contaminated by the water in the homes of the populace as much as vessels do in the dairies of other countries. Experience of the lower orders in Malta goes to show that they are not much more cleanly in their habits than the average goat and we read in the report of the Commission that in one house the occupants used the same bucket for washing the vegetables as they employed for carrying their excreta to the midden.

In Part III., at p. 37, we read that monkey No. 43 was repeatedly given hypodermic injections of broth growth from the breaths of Malta fever patients. The injections were frequently given from Oct. 27th to Dec. 4th. The blood of the animal was repeatedly tested for agglutination reaction with micrococcus Melitensis during the period of the experiment. I make the following extracts:—

On 7th of November doubtful tendency to agglutination, $\frac{1}{10}$, $\frac{1}{20}$; on 12th somewhat ailing; on 28th slight agglutination reaction, $\frac{1}{10}$, $\frac{1}{20}$; on 5th of December tendency to agglutination in $\frac{1}{5}$ dilution; on 12th no agglutination reaction; on 15th dying, gave chloroform. P.M. Pneumonia and pericarditis. Inoculated slopes from all organs.

23rd December no M.M. recovered p.m., but a glucose fermenting + Gram staining coccus was obtained from spleen, liver, and kidneys, nothing from heart's blood and lungs.

In the remarks upon this experiment we read: "There is to be noticed in both these animal experiments the development of a low agglutination reaction and here, as in the skin experiments, I should attribute this to the ingestion of M. Melitensis toxins, as a certain amount of saliva trickled down the long entry tube and so into the broth." I would here point out, whilst admitting the *possibility* of the above conclusion being the right one, that it has been shown that agglutinins are not entirely specific in their action—i.e., that, in some cases at any rate, treatment with a particular organism may increase the agglutinating power as affecting other varieties of germs (Bosanquet).

In the above experiments the broth injected was shown to contain germs other than the micrococcus Melitensis and the effect of injecting them was seen to be so marked at the post-mortem examination of monkey No. 43 that it is hardly surprising to read that in the serum of the animal the agglutinating power was increased sufficiently to act with a dilution of 1 in 20 upon the micrococcus Melitensis.

I might add, in conclusion, that Surgeon Ross and I have frequently suggested to members of the Commission that the true agent of infection is very probably the mosquito acartomyia Zammitii. Our experiments, observations, and arguments which lead to this conjecture are given in our papers in the *British Medical Journal* of April 1st, 1905, and the *Journal of the Royal Army Medical Corps* for August and September, 1905. It seems a pity that experiments have not been thoroughly undertaken to prove whether or not acartomyia Zammitii is the real agent of infection.

THE WINES OF THE GIRONDE
WITH
SPECIAL REFERENCE TO CLARET.

THE statement which appeared in an annotation in THE LANCET[1] a little over a year ago that "Bordeaux wines or clarets were never cheaper, more abundant, and purer than they are in the present day" proves to be well founded in view of the results of a practical inquiry which we have recently undertaken. It is somewhat remarkable, therefore, that the belief still gains currency that the bulk of the claret sold at the present time in this country is too cheap to be good and that the genuine produce of the Médoc can only be obtained at relatively high prices. In giving an immediate answer and denial to this we may as well state at once that we have purchased wines in the open market, in London at all events, at wine merchants, stores, and grocers' shops at prices varying from 1*s.* to 3*s.* a bottle which have proved to be not only genuine but wines of excellent quality also. It is, indeed, highly probable that as a matter of fact the best value in regard to wines at the present time is to be obtained in clarets.

As we shall presently point out, the public, speaking generally, either has uncertain views about claret or, and this is worse, regards it as being deficient in that stimulating power which is only too freely found in strong fortified wines or spirits. The view is unfortunately too commonly held that the most trustworthy form of stimulant is whisky or some other spirit and that these contain alcohol in a pure and harmless form; therefore it is thought that in the choice of a stimulant it is safer to avoid a light wine the origin and genuineness of which are open to doubt. It is probable also that the use of light wine as a beverage has fallen into disrepute because it has happened occasionally that both the palate and the pocket of the public at some time or other have been trifled with by unscrupulous dealers; we are convinced, however, that this is only a fractional reason, although it may well be accountable for the practical absence of a demand for light red wines on the hotel table. Nowadays it is quite exceptional to find claret called for at hotels, for the simple reasons that, firstly, the price asked for it is exorbitant and, secondly, the wine supplied is frequently of a very inferior quality, if, indeed, it is not sour and undrinkable. In these circumstances it is not surprising that whisky and water (plain or aerated), regarded, as it generally is, as being above suspicion, has come to be the common accompaniment to a meal at the hotel. We believe that if hotel proprietors would undertake to provide their patrons with a sound Médoc wine at a reasonable price—say, 2*s.* or 3*s.* a bottle—they would find the step very widely appreciated and a profitable one. The objection generally urged, however, is that such a scheme would leave no margin of profit. This seems to us unlikely when we call to mind the fact that in almost every little inn in France a bottle of good sound wine can be obtained for a franc or so. It may not be a wine of great quality or delicacy but, generally speaking, it is at least a "clean," wholesome, and genuine *vin ordinaire*. The small margin of profit theory is, moreover, illogical, since a bottle of whisky for which 5*s.* or 6*s.* are charged and which is made to last for perhaps a week, would leave surely a smaller margin of profit than a bottle of claret ordered with each meal.

But there are other factors which have led the public taste in this matter to disregard delicate light wines in favour of more potent beverages. Good sound claret is the most

[1] THE LANCET, Oct. 8th, 1904, p. 1035.

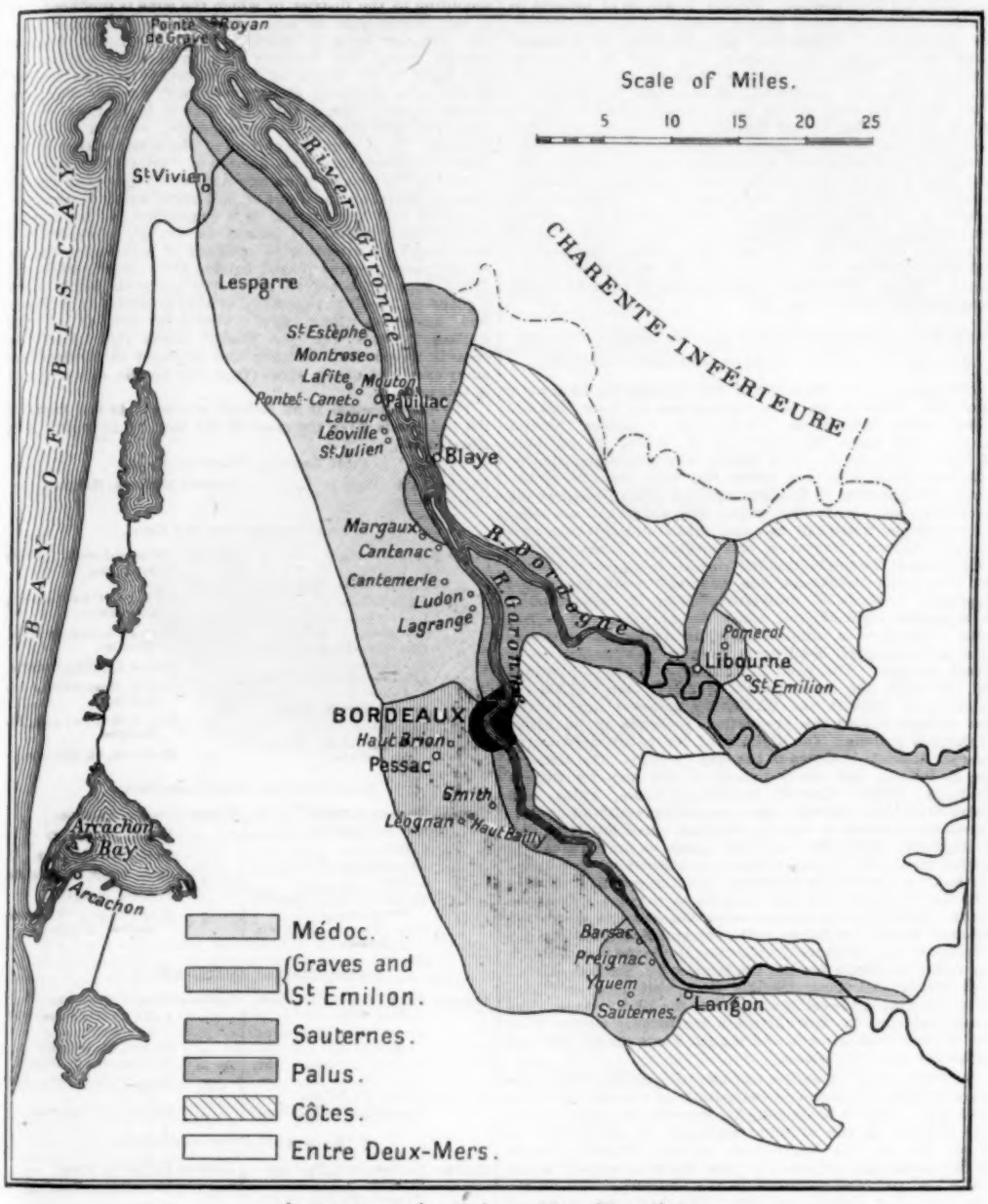
delicate as it is the least intoxicating of wines. The exquisite flavour of the Médoc wines in particular is easily spoilt and modern habits of living and of feeding conspire to blunt the delicate sense of the palate. The smoking of a cigarette or cigar, for example, invariably spoils the flavour of a choice claret and quite destroys the chance of appreciating and enjoying the taste and bouquet of a delicate wine. Coffee and liqueurs and even heavy wines, on the other hand, appear to many as agreeable accompaniments to smoking, the flavours of these liquids not being readily spoiled. Even so, these habits, whether we condemn them or not, should have no effect with respect to the claret consumed during a meal. Few now reserve a glass of Lafite or Margaux or Latour for after-dinner drinking, the use of port, liqueurs, or coffee, or of all three, having replaced the delicate and more interesting Château claret. It has been said that it is only the man of refined tastes who can appreciate to the full the refinements of a "classed" Médoc wine or who can differentiate between vinous vulgarity and delicacy, and this is a factor which tends to reduce the ranks of appreciative claret drinkers. Certainly claret is abandoned by many, it is to be feared, because, as *Mr. Punch* once put it, "you can't get no forrader on it." Continual spirit drinking undoubtedly interferes with the relish for the less potent but more "flavoury" wines. Simplicity of diet at the table, again, was more the rule when claret was in favour, whereas the present custom is to adopt a number of varied courses, comprising *hors d'œuvre*, piquant sauces, highly seasoned dishes, savouries, and so forth, which help to destroy the chances of appreciating the best characteristics of a really elegant and interesting wine. These are, at all events, some of the contributory causes of the decline in the consumption of light wines, and it is a question worth considering whether this decline, in view of the adoption of stronger wines or of ardent spirits, is not without an unfavourable influence on the health and *morale* of the people.

There are few social reformers who do not agree with the view that the less alcohol that a nation drinks the better. It surely follows that the less potent the alcoholic beverage is the better also, for in that case the physiological allowance of alcohol is less likely to be exceeded. The spirit-drinking habit as opposed to the indulgence in light natural wines is deplorable, especially when it is largely confined to potations between meals. It should be remembered that for all practical purposes, and certainly as compared with wine, whisky is pure alcohol and that therefore a mixture of whisky and water is a very different thing from wine, although the alcoholic strength of both may be the same. It may be remembered also that pure alcohol as such is never a natural product; it must be separated from the environment in which it is produced by means of the still. The physiological effect of ten ounces of whisky and water containing 10 per cent. of alcohol and ten ounces of, say, claret containing also 10 per cent. of alcohol is notoriously different. The former instantly produces a marked sense of stimulation and warmth in the stomach; the latter is exceedingly slow in producing a similar effect, if, indeed, it is produced at all, and yet the amount of alcohol in the two liquids is the same. The physiological effect of the alcohol in the wine is modified, no doubt, by the natural constituents of the wine, such as the acids, tannin, glycerine, extractives, and so forth. It would appear, therefore, that the alcohol in claret is not so readily diffusible as is the alcohol in a mixture of spirits and water. Sparkling wine, such as champagne, proves to be a readily diffusible stimulant, probably because the effervescence acts as a stimulant to the movements of the stomach. The physiological effect of alcohol in claret is in some way checked and claret is thus less rapidly stimulating than a mixture of spirits and water containing the same proportion of alcohol; in other words, the former is a gentle, while the latter is a rapid, stimulant. "It is a profound mistake," writes Dujardin Beaumetz, "to regard wine as a mere mixture of alcohol and water; it is a complete living entity, of which all the elements constitute an *ensemble* so complex and homogeneous that we cannot modify one or another without producing profound changes in the composition of the wine itself." Possibly the slow rate with which alcohol in claret is absorbed as compared with that of spirits and water is due to a difference of osmotic pressure exercised by the dissolved constituents of the wine. It is well known, at all events, that pure distilled water (that is, water which contains no salts) will act as a protoplasmic poison. If tissues or cells are placed in distilled water the water rapidly passes into the cells owing to the difference of osmotic pressure. The cells swell and may burst and die. This process in the stomach may lead to catarrh of the organ, the surface layers of the gastric epithelium undergo considerable swelling, salts may pass out, and the cells die and be cast off. Gastric catarrh, as is well known, is an invariable symptom of the confirmed spirit-drinker and it is conceivable that the purity of the alcohol which he constantly imbibes is a contributory factor to this catarrh owing to the difference of osmotic pressure between the alcohol and water and the gastric cells. On the other hand, the difference between osmotic pressure when wine is consumed must be relatively small owing to the extractives, glycerine, acids, and other constituents dissolved in the wine, and the passage of wine, unless it is strong and highly fortified, into the cells must be relatively slower. The placing of a slice of lemon in spirit and water would, in view of the phenomenon just referred to, tend to reduce the difference of osmotic pressure in a similar way.

In this connexion it is interesting to observe that there is a very excellent institution the members of which call themselves, we believe, semi-teetotalers who pledge themselves not to drink alcoholic beverages between meals. Common sense heartily approves of this form of abstinence from alcoholic liquors and though there are very many other cogent physiological considerations which clearly teach that such a course must be conducive to health, further proof of the discretion of such abstinence is furnished by the osmotic effects just described which indulgence in spirits is calculated to bring about. A consideration of this fact also teaches a lesson in regard to the drinking of light wine as opposed to the drinking of spirits. It would be interesting if those scientific men who condemn root and branch the use of alcohol in any form would conduct an experimental inquiry on the lines indicated and determine whether it is correct to assume that the physiological effect of alcohol in the form of wine is the same as when pure alcohol is given. There can be little question that a light natural wine is infinitely less harmful physiologically as regards alcohol than are ardent spirits. No better evidence in support of this can be cited than the fact that in spirit-drinking countries crime and disease ascribable to alcohol are the rule, while in countries where light wines are even freely consumed the evils arising from drink are the exception and drunkenness is comparatively unknown. So strongly has the fact impressed itself on certain communities that steps have been taken to encourage the drinking of light wines by reducing the duty on them in the hope that the consumption of spirits would be discouraged. In Paris, for example, the "octroi" on wines brought into the city have been taken off with the view of encouraging the drinking of light natural wine and of diminishing the vicious results occurring from the consumption of ardent alcoholic liquors, such as apéritifs, absinthe, and so on. The moderate drinking of claret in particular has been credited with diminishing the appetite for alcoholic drinks, and thus its use may have the salutary tendency of preserving a sober standard and of leading to the abandonment of the daily libation of powerful spirituous liquors. On temperance grounds it is a pity, we think, that the duty on really *light natural* wines imported into this country cannot be reduced to an even lower rate than it was some years ago. Really light wine might with advantage, we suggest, come under a lower scale of duty than is at present charged, the same rate now being put upon wines of a higher alcoholic strength than claret. In wine-producing countries, again, light natural cheap wine is consumed in large quantities, amounting to as much as two pints a day without any observed ill effects on the health. Sociologically, therefore, the decline in the consumption of light wines in favour of stronger drink demands serious consideration.

At the outset we stated that Bordeaux wines or clarets were never cheaper, more abundant, and purer than they are at the present time. It is necessary to examine carefully and

MAP OF THE WINE-PRODUCING DISTRICTS OF THE GIRONDE.



Area approximately = 65 x 80 miles.
Area under cultivation about 400,000 acres.

minutely into this statement in order to determine whether it can be justified by first of all looking into the facts connected with the production of red and white wines in the districts of which Bordeaux is the centre in the south-west of France; and, secondly, by submitting to the test of the palate and of chemical analysis samples of wine which are known to be genuine because obtained personally at the place of production and comparing the results with wines bought in the open market. Finally, it will be of interest to discuss the composition of wine in relation to its dietetic uses. We are aware, of course, that the composition of Bordeaux wines has been determined again and again by numerous observers and a great number of more or less trustworthy analyses have been published; nevertheless, we venture to think that in the work of the practical and scientific inquiry recently undertaken by our Special Commissioner there are presented some new features in analysis which are of special interest in connexion with the dietetic value of wines. We may resolve our inquiry therefore into the following order of investigation—namely, an inspection of the processes concerned in the production of Bordeaux wines, the normal composition and characteristics of genuine wines obtained personally at their source, and the general composition and characteristics of wines sold in the market as claret; finally a section is devoted to some points in connexion with their dietetic application.

THE WINE-PRODUCING AREAS OF THE MÉDOC, GRAVES, SAUTERNES, AND ST. EMILION DISTRICTS (GIRONDE).

The reputation of the wines of the Gironde has been built upon the yield of an area represented in some 400,000 acres under cultivation, while the complete district is not more than 65 miles by 30 miles, or an area of 5200 square miles. The whole wine-producing area of which we speak is, in fact, rather less than the area of the county of Yorkshire in England and yet it has furnished the world's claret supply for years and years and no other country in the world can compete with it in producing wine of equal delicacy, fragrance, and elegance. From the year 1880 onwards the production has steadily increased, although the area under cultivation has remained much the same; improved methods of cultivation have in fact resulted in a greater yield of fruit and hence of wine. Of course, some years show a diminished yield owing to unfavourable meteorological conditions, frost or wet it may be or insect ravages. The yield in 1880 was 36,000,000 gallons and in 1900, the most prolific year, it was 126,000,000 gallons; in 1904 it was 99,000,000 gallons; and in the last vintage (1905) the production promises to be about 95,000,000 gallons. The division of the entire department into six districts is shown in the map (p. 321). The districts are as follows and are indicated in the map by various shadings: Médoc, Graves, Sauternes, Côtes, Palus, and Entre-deux-Mers. Strictly speaking, the only district bordering on the Gironde, if we except certain small low-lying districts chiefly on the east bank and known as the "Palus," is Médoc itself. The name Gironde is applied to the estuary of that river and nearly 50 miles from the mouth it divides into the Dordogne and the Garonne at a point just above Blaye. The Garonne then traverses the districts where the wines of the Graves (white and red) and Sauternes district (white only) are produced, while the Dordogne runs through the valley on which borders the famous St. Emilion district (red wine). All these districts were visited by our Commissioner during the full operations of the 1905 vintage. The wines produced in these districts are broadly spoken of as the wines of the Gironde and the red wines are all included under the name of "claret."

Bordeaux may be called the city of cellars, every conceivable space underground being utilised for the storing of wine, and it may be imagined what immense stocks there are. The city lies at the southern extremity of the Médoc but is situated in the upper part of the Graves district. In Bordeaux the expression "*vin blanc et rouge*" means white and red wine produced in the districts shown on the map and lying around the city. The Médoc is less inland than the other districts and, in fact, is situated between the sea and the broad estuary of the Gironde and hence the word Médoc is probably a contraction of "In Medio Aquæ." In places this estuary is more than five miles wide. On the east side of the estuary and northwards lies the Charente Inférieure, bordering in its turn on the famous brandy-producing district, the Charente, with Cognac as its centre. By far the greater number of châteaux are situated in the Médoc which is the most productive area and certainly the wines of the Médoc are the most widely known. Mention need only be made of Châteaux Lafite, Margaux, Latour, Pontet-Canet, Mouton, Léoville, and so on, which are close to the towns of either St. Julien or Pauillac (the Gravesend, so to speak, of the Gironde). There are thousands of minor châteaux all devoted to the production of good wine, the quality varying according to the district in which the wine is produced. It is very remarkable to notice how sharply a district bearing superior wine is marked from a district bearing inferior wine. The districts may, in fact, be contiguous, but there is no doubt of the difference in the quality of the wine produced in each vineyard, though they may almost adjoin. The quality of a wine is, in fact, dependent upon soil and this varies considerably, even in the same districts. It is still the custom of the wine industry in the Médoc to adhere to a classification of "growths" which was drawn up very many years ago and which has been agreed upon as official and as a sort of hall-mark, and it is generally conceded that the division is a convenient one as regards standardising wines. It cannot be denied, however, that with improved attention to methods of cultivation during recent years growths placed outside this classification and called superior bourgeois or simply bourgeois really merit a place in the list, especially as this grouping into classes was made so long ago. Certainly several of the unclassed wines run the classed wines very closely as regards flavour and delicacy and amongst the former are many excellent cheap wines (from 12*s.* to 24*s.* a dozen) sold in this country.

The classification is as follows and next to the name of the château is given the name of the locality in which it is situated:—

FIRST GROWTHS (PREMIERS CRUS).

Château Lafite, Pauillac	Château Margaux, Margaux.
Château Latour ,,	

SECOND GROWTHS (SECONDE CRUS).

Château Mouton Rothschild, Pauillac.	Château Gruaud-Larose, Faure St. Julien.
,, Rauzan-Ségla, Margaux.	,, Brane-Cantenac, Cantenac.
,, Rauzan-Gassies ,,	,, Pichon-Longueville, Pauillac.
,, Léoville-Lascases, St. Julien.	,, Pichon-Lalande, Pauillac.
,, Léoville-Barton, St. Julien.	,, Ducru-Beaucaillou, St. Julien.
,, Léoville Poyferré, St. Julien.	,, Cos-d'Estournel, St. Estèphe.
,, Durfort-Vivens, Margaux	,, Montrose, St. Estèphe.
,, Lascombes ,,	
,, Gruaud-Larose-Sarget, St. Julien.	

THIRD GROWTHS (TROISIÈMES CRUS).

Château Giscours, Labarde.	Château Palmer, Cantenac.
,, Kirwan, Cantenac.	,, La Lagune, Ludon.
,, d'Issan ,,	,, Desmirail, Margaux.
,, Lagrange, St. Julien.	,, Calon Ségur, St. Estèphe.
,, Langoa ,,	,, Ferrière, Margaux.
,, Malescot-Saint-Exupéry, Margaux.	,, Marquis D'Alesme-Becker, Margaux.
,, Cantenac-Brown, Cantenac.	

FOURTH GROWTHS (QUATRIÈMES CRUS).

Château Saint-Pierre-Sevaistre, St. Julien.	Château Pouget, Cantenac.
,, Saint-Pierre-Bontemps, St. Julien.	,, Latour-Carnet, St. Laurent.
,, Branaire-Ducru, St. Julien.	,, Rochet, St. Estèphe.
,, Talbot, St. Julien.	,, Beychevelle, St. Julien.
,, Duhart-Milon, Pauillac.	,, Marquis-de-Terme, Margaux.
	,, Le Prieuré, Cantenac.

FIFTH GROWTHS (CINQUIÈMES CRUS).

Château Pontet-Canet, Pauillac.	Château Le-Tertre, Arsac.
,, Batailley ,,	,, Haut-Bages, Pauillac.
,, Grand-Puy-Lacoste, Pauillac.	,, Pédesclaux ,,
,, Grand-Puy-Ducasse, Pauillac.	,, Belgrave, St. Laurent.
,, Lynch-Bages, Pauillac.	,, Camensac ,,
,, Lynch-Mousses ,,	,, Cos-Labory, St. Estèphe.
,, Dauzac, Labarde.	,, Calve-Croizet-Bages, Pauillac.
,, Mouton-d'Armailhacq, Pauillac.	,, Cantemerle, Macau.

The Graves district borders on the river Garonne and produces both red and white wines. Amongst the favourite red wines are those of Château Haut Brion, just west of, and quite close to, Bordeaux, which in fact is classed in the first division; Château Smith, Haut Lafitte, and Château Haut Bailly. The classification of the white wines of the Gironde relates to the wines of the Sauternes, the Grand first growth being that of the world-famous Château Yquem, while other wines enjoying distinction in the first class are those from La-Tour-Blanch, Peyraguey, Vigneau, and Rabaut in the Bommes district; Château Coutet, Climens at Barsac, Château Soduiraut at Preignac, Château Guiraud at Sauternes, and Château Rieussec at Fargues. In the second class are wines from Château Mirat (Barsac), Doisy (Barsac), Peyxotto (Bommes), D'Arche Filhot (Sauternes), Broustet-Nérac (Barsac), Caillou (Barsac), Suau (Barsac), Malle (Preignac), Romer (Preignac), and Lamothe (Sauternes). The chief town in the Sauternes district is Langon, which is beautifully situated on the banks of the Garonne. The most important wines produced in the Côtes are those in the district of St. Emilion. They are often called, on account of their full body and generous character, the burgundies of the Gironde. Amongst famous growths are Châteaux Ausone, Cheval Blanc, Bel-Air, and Pavie. Close by is Pomerol which also produces wines of estimable character. St. Emilion is a most interesting and picturesque town situated in a charming district of hills and vales, about five miles east of Libourne on the river Dordogne, the bridge over the river being part of the national road running from Bordeaux to Paris. All the districts just described were visited by our Commissioner during vintage time. And we may now pass to the methods of making the wine from the grape as he saw them practised in these districts.

FIG. 1.

The gathering of the grapes.

WINE MAKING IN THE GIRONDE.

There is surprisingly little to describe in regard to the method of making wines in the Gironde for the excellent reason that it is simplicity itself and we doubt whether any other wine than claret can claim to be left so entirely to purely natural processes. Indeed, claret makes itself without even the intervention of a press in some cases, for in the ordinary processes of picking, carting of the grapes, and separating the stalks some of the juice is liberated; fermentation rapidly sets in and the berries that happen to remain whole in the vat burst, their juice joining in the fermentation already established. The grape is black, with a diameter of about that of a threepenny piece, and in a healthy state is usually covered with a strong bloom. The colour of claret is entirely due to the skins and if these were omitted from the vat practically a white wine would result. All grape juice is white whether the grape is white or black. Vintage time in the Médoc affords a very interesting and picturesque sight. We reproduce some photographs illustrating in Fig. 1 the gathering of the grapes, in Fig. 2 their removal in carts drawn by oxen to the *cuvier* (Fig. 3) the place in which the grapes are pressed and the wine is stored in vats.

As already stated, in some cases it is not necessary that the grapes should be pressed at all; so much of the juice escapes by the pressure of the fruit itself and during the process of separating the stalks that the semi-liquid mass containing whole fruit is transferred straight away into the vat without further attention. In the majority of cases, however, the grapes are carefully picked and pressed but the skins are always put into the juice in the great vats. We give an illustration in Fig. 4 of a typical *pressoir*. Fermentation steadily proceeds in these vats which are closed in order to keep the generated carbonic acid gas as much as possible in the vat and thus to protect the wine that is developing from the action of the air. The escape of gas is provided for by a small pipe dipping into a water seal. The bubbling noise of the gas passing through the water in an otherwise perfectly quiet *cuvier*, where there may be a dozen vats of immense capacity each contributing its volume, is a strange and impressive sound. The primary fermentation being concluded, after about ten days the young wine is drawn off (*décuvage*) and eventually transferred to scrupulously clean hogsheads (barriques). The hogsheads are placed in the cellar where the wine is jealously watched during its development and the only care that remains to be bestowed upon it is in the racking (drawing off the clear wine from the lees or residues) which is done as often as there is occasion, according, in fact, to the development of the wine. A comparatively quiet secondary fermentation succeeds the first but soon subsides until practically the whole of the grape sugar is exhausted. There is little doubt that careful and well-timed racking is a very important factor in the production of a good wine and any neglect to carry out this simple operation may make all the difference between success and failure. With ordinary wines bottling may be commenced at the end of the second year, but as a rule fine and full-bodied wines are not bottled until the end of the third year or fourth year or even after a longer period.

Such, in brief, is the story of the making of claret from the juice of the grape and the entire process is extremely simple, being effected from beginning to end by what practically amounts to purely natural agencies. The grape juice ferments until fermentation ceases and in order to gain a clear and brilliant product the resulting wine is simply poured off from certain insoluble matters, as from time to time they subside and are thrown out by the alcohol produced. The degree of cleanness and brilliancy depends upon the care and regularity with which the racking is done. The word claret is probably derived from "*clairé*," cleared or clarified (Latin "*clarus*," clear). It was but a step from the old French participle "*clairé*" to the adjectival noun "*clairet*" or, as we have it, Anglicised, "claret." The clearing process is often assisted by fining the wine with white of egg, which process adds nothing foreign to the ultimate wine but merely withdraws matters identical with those thrown out in the ordinary course of events in the natural deposit. There are, of course, certain minor details connected with the management of wine during its development but we have confined our account to the principal and essential steps in the simple operation. Suffice it to add that at no stage in the

making of claret is there any recourse to the use of artificial agents and genuine claret is never fortified by the addition of spirit. In short, as we have said, claret is the simplest type of wine and the product of purely natural agencies, requiring no additions whatever to fit it for consumption or to adapt it to the public taste.

The red wines in the Graves district are produced much in the same simple way, as is also white claret (made from white grapes), while in the Sauternes district the method of wine making is totally different. The white grape of the Sauternes is allowed to get thoroughly ripe until, in fact, it shows signs of wrinkling up and rotting and consequently the vintage is later than in the Médoc. The grapes are picked with very great care and discrimination off the bunch singly grape by grape and after a thin mould has formed upon them. In the press house they are first trodden under foot and then by machinery, the expressed juice being collected and put straight into the hogshead in which the fermentation takes place, which generally lasts several weeks. The wine becomes bright and fermentation is arrested partly by the alcohol generated and partly by the onset of the cold weather. The grape juice, as may be anticipated, is very rich in sugar and the best Sauternes are sweet, and unless certain precautions are taken, as by burning some sulphur in the casks, fermentation will readily start again on the slightest provocation. Wines for export are also "sulphured" otherwise the casks containing them would burst. There are, however, some very agreeable dry wines produced also in the Sauternes, but the most famous, as that of Yquem, are sweet, full, and generous and carry a high perfume. We deal with the character and composition of these wines in a section devoted to their analysis further on.

It may be added, in concluding this description of the wine-making processes of the Gironde, that no attempt is made to keep the processes away from public scrutiny and anyone is at liberty to visit the *cuvier* during the busy time of pressing the grapes; indeed, the entire operations during vintage, as during the harvest of corn in England, may be watched in detail from the roadway, and there are scores of presshouses opening on to the highway from which the pressing of the grapes may be seen as well as the processes involved in the consignment of the juice to the vats.

THE COMPOSITION OF THE WINES OF THE GIRONDE.

Millions of gallons of grape juice would be annually wasted if fermentation did not step in, which it does the moment the juice is set free from the fruit and preserves it in the form of wine. Fermentation may therefore be regarded as a preserving process in which the development of alcohol corresponding to the amount of sugar present in the juice is the chief factor. Broadly speaking, wine is grape juice with the sugar replaced by alcohol. The process of fermentation is, however, more complex than this statement would imply, and in wine are also found, besides alcohol, the additional products of fermentation, such as glycerine, ethers, and higher alcohols. Moreover, as the alcohol develops it exerts a solvent action on the extractive matters of the skin and thus tannin and colouring matter appear in the wine. A sample of grape juice taken in the Médoc during the 1905 vintage gave the following results (grammes per 100 cubic centimetres) on analysis in THE LANCET Laboratory. Side by side with this analysis is placed an average analysis of a Médoc wine. A comparison of the two shows broadly the changes in composition effected by fermentation.

The Composition of Grape Juice compared with Wine.

	Grape Juice.	Claret.
Total solid matters	23·12	2·56
Sugar	21·80	0·13
Alcohol	—	9·83
Water	76·87	87·61
Glycerine	—	0·642
Tannin	traces.	0·238
Albuminoid (N × 6·3)	0·30	0·278
Total volatile acidity calculated as acetic acid	—	0·127
Total fixed acidity reckoned as tartaric acid	0·69	0·460
Potassium tartrate	0·34	0·166
Total mineral matter	0·34	0·220

FIG. 2.

Carting the grapes.

It should be added that the grape juice, previously to its despatch to THE LANCET Laboratory, was sterilised by heating immediately it left the press and certain albuminoid matters, gums, &c., had coagulated. These were collected, dried, and weighed, the sediment amounting to 1·02 grammes per 100 cubic centimetres of juice. The sediment contained mineral matter, 15·64 per cent.; albuminoid matters, 16·00 per cent.; and gums, fibre, and acids, 68·36 per cent. The coagulum obtained on sterilising grape juice bears a close resemblance to the composition of wine lees. The juice was slightly tinged red and contained merely traces of tannin.

The normal composition of genuine clarets is shown in Table A. The specimens were secured personally in Bordeaux by our Commissioner and an attempt was made to select types representative of the various districts shown in the map. They include the red wines grown in the districts of St. Estèphe, Pauillac, Margaux, St. Julien, Cantenac, and Labarde in the Médoc, Pessac and Léognan in the Graves district, and Pomerol and St. Emilion in the St. Emilion district. From time to time a considerable number of analyses of claret have been published in English scientific journals but hitherto these analyses have omitted certain important items which the present analyses supply, we believe, for the first time.

The results may be briefly summarised. The alcohol in claret rarely exceeds 10 per cent. by weight and on

the whole it varies but little either on one side or the other of 10 per cent. by weight or 12·40 per cent. by volume. The extractive matters in claret are, as a rule, a fairly constant quantity, averaging 2·55 per cent. The figure is somewhat lower for old wines, while it is a little higher for the St. Emilion and Graves wines. Wines of delicate character, as a rule, seldom contain more than 2·50 per cent. of solid matters in solution. The average amount of glycerine in clarets is 0·642 per cent., but the amount varies in accordance with the nature of the wine, the maximum, as a rule, being just short of 1 per cent. and the minimum 0·43 per cent. The wines from the St. Estèphe district are generally characterised by containing the highest quantity—i.e., over 0·9 per cent. This is an interesting feature of St. Estèphe wines and almost serves, in our experience, as a hall mark. Whenever we purchased in the open market, and we obtained several samples in this way, a wine described as St. Estèphe, it always showed this relatively high proportion of glycerine. In old wines the glycerine is likely to exceed 0·6 or 0·7 per cent. Glycerine is, of course, a perfectly normal product of vinous fermentation and is probably a contributory factor to the preservation and conditioning of a wine and as well tending to give it body and sweetness. The chief preservative in wine, however, must be the alcohol, since de-alcoholised wine rapidly changes and gets mouldy. The sugar in clarets is practically constant, rarely exceeding 0·2 per cent., the average being as low as 0·130 per cent. Clarets contain, as a rule, less sugar than do white wines. Tannin is also a fairly constant quantity and averages 0·238 per cent. The amount is reduced by age or by fining. There appears, however, to be no relation between the amount of tannin and nitrogenous substances in a wine. The tannin, colouring matter, and nitrogenous substances share one common property in wine, since when red wine is decolourised with animal charcoal all three are found to be practically absent in the colourless wine.

The amounts of nitrogenous matters in claret vary somewhat widely and a relation seems to exist directly between the total nitrogen and the intensity of colour. Wines of low colour, as a rule, show a relatively small proportion of nitrogenous substances and *vice versâ*, and in a wine decolourised by animal charcoal there is practically no nitrogen at all. The wines showing the highest proportion of nitrogenous bodies were No. 3 and No. 10 in Table A, and these showed the highest intensity of colour. On the other hand, the wine showing the smallest amount of nitrogen—namely, No. 1 in the table—showed the least intensity of colour. The nitrogen diminishes again in old wines due to loss by deposition and their colour is correspondingly reduced. The inference is that in red wines the nitrogen is part and parcel of, at any rate, some of the colouring constituents and it is of interest to add that the grape skin contains 1·45 per cent. of nitrogen which, calculated as albuminoid, amounts to 9·14 per cent. The average amount of albuminoid ($N \times 6{\cdot}3$) in claret is 0·278, extreme points being 0·395 and 0·105. We shall return to this question of the amount of nitrogenous constituents present in wine, since they appear to affect the digestibility of wine in direct proportion to their amount and, as a rule, as colour diminishes the less is the interference caused by the wine with the digestive processes. It would follow that the young highly coloured wines are less digestible than the old wines in which the colour has largely disappeared. There are, however, other factors in the composition of wine as we shall presently see which may discount such a deduction or the idea of any relationship existing between colour and digestibility.

It is curious that claret is so often regarded as an acid or a sour wine. As a matter of fact it is the least acid of all wines and is certainly less acid than white wine. Claret is the "driest" of wines, there being practically no sugar present to disguise the small degree of acidity that exists. The palatability of sparkling wines such as champagne is considerably diminished when the wine is excessively dry and they appear intensely acid when the sugar is entirely removed. Of course, claret easily becomes sour if it is not securely corked or when the means to keep it away from the oxidising action of the air is defective. A good delicate mature claret will not keep; young, rough, vigorous wine, on the other hand, will

FIG. 3.

The press and vat-house.

last for days after it has been poured out of the bottle. This serves as a simple but correct way of differentiating a wine of delicate character from a coarse one. The amount of fixed acidity in clarets expressed in terms of tartaric acid seldom exceeds 0·45 per cent., the average being 0·40 per cent., and in a sound wine the volatile acidity reckoned as acetic acid is seldom more than 0·17 per cent., the average being 0·127 per cent. The amount of potassium tartrate in claret is fairly constant also, the average being 0·166 per cent. It increases in full-bodied wines. The mineral matter varies between limits of 0·10 and 0·30 per cent. Summing up, it may be stated that, generally speaking, clarets, even from different districts, show a fairly uniform composition, and the small variations that are seen to occur may be accounted for by the special circumstances in which the wine is produced, as to whether it is old, delicate, full-bodied, coarse, highly or thinly coloured, and so forth. The generous and somewhat full character of a St. Estèphe, a red Graves, or a St. Emilion wine (the last being often called the burgundy of the Gironde) has its counterpart in a slight increase in alcoholic strength, in the amount of extractives, tannin, nitrogenous bodies and intensity of colour. The delicate wines, on the other hand, show a less robust constitution even from an analytical point of view. It is, however, chiefly the æsthetic qualities of a wine which give it the greatest esteem and up to the present chemical analysis can throw little light upon those elements which determine the fragrance, bouquet, and flavour of a wine. The estimation of the secondary products of fermentation (higher alcohols, ethers, and aldehydes) gives, however, some interesting results, as will be seen further on.

Having presented what may be regarded as the normal results of analysis given by clarets which we know to be genuine, we may next proceed to apply the same methods to the examination of wines described as clarets bought in the open market. The analytical results will be found in Table B. Besides those given in the table we have purchased many other samples which were submitted not to analysis but to the palate of an expert who pronounced them all to be wines possessing the genuine Bordeaux characteristics, though in some instances his opinion was qualified by such remarks "as "perfectly genuine wine but not of great quality," "thin wine," "somewhat coarse," and so on, but all were described correctly as claret—that is, wine produced in the Médoc and other districts of the Gironde. Moreover, the price in some instances was not more than 12*s.* a dozen, comprising samples of really good *vin ordinaire*, while quite good claret with delicacy and bouquet and attractive flavour was purchased at from 15*s.* to 30*s.* a dozen.

On the whole it is satisfactory and gratifying to be able to report that the public get what they ask for when they purchase claret. There are, however, exceptions which we will point out although if our observations are followed there should be no difficulty in avoiding these exceptions. It should be stated that when purchasing these samples which proved to be genuine we made no special endeavour to procure samples which were suspicious either by being sold at an absurdly low price, say at 6½*d.* a bottle, or by bearing a label which conveyed nothing. Later, however, we turned our attention to abnormally cheap wines and we found that for the most part these were being sold at cheap Italian restaurants. We append the analysis of samples in Table C. We are convinced that even many of these are genuine wines inasmuch as they are made from grape juice, not, however, in the Médoc but most probably in London. They are, in fact, the so-called "basis wines." As will be readily seen from the analysis, they are characterised by a high amount of alcohol (due to added spirit), high sugar and low tannin, low nitrogen and feeble colour. In some cases the addition of glycerine is obvious. Grape juice contains little tannin and, of course, is white in colour. The colour of the basis wine may be derived from a small

TABLE A.—ANALYSES OF GENUINE CLARETS.

(*Results in Grammes per 100 c.c.*)

Description.	Alcohol by weight.	Alcohol by volume.	Water.	Extractives.	Glycerine.	Sugar.	Tannin.	Proteid = N × 6·3.	Total volatile acidity as acetic acid.	Total fixed acidity as tartaric acid.	Probable real tartaric acid.*	Potassium tartrate.	Total mineral matter.
Leoville Lascases. 1. St. Julien, 1890	9·21	11·44	88·29	2·50	0·430	0·140	0·236	0·105	0·138	0·41	0·35	0·124	0·20
Rauzan Segla. 2. Margaux, 1896	9·29	11·52	88·17	2·54	0·561	0·125	0·236	0·176	0·159	0·41	0·35	0·192	0·25
Chateau Palmer. 3. Cautenac, 1899	10·38	12·87	86·98	2·64	0·683	0·130	0·200	0 356	0·111	0·45	0·41	0 060	0 14
Chateau Langou. 4. St. Julien, 1896	9·79	12·13	87·61	2·60	0·670	0 111	0·236	0·282	0·129	0·46	0·40	0·150	0·20
Chateau d'Issan. 5. Cautenac, 1899	9·67	11·87	87·53	2 90	0·620	0·110	0·259	0·336	0·135	0·48	0·41	0·250	0·25
Montrose. 6. St. Estéphe, 1899	10·06	11·52	87·38	2·56	0·910	0·160	0·188	0·275	0·135	0·48	0·43	0·180	0 25
Chateau Latour. 7. Pauillac, 1880	10·77	13·34	86·63	2·40	0·845	0·140	0·236	0·229	0·108	0·50	0·44	0 226	0 28
Petrus Pomerol. 8. St. Emilion, 1900	9·36	11·61	87·84	2·80	0·646	0·170	0·318	0·211	0·174	0·41	0·33	0·101	0 10
Chateau Haut Brion. 9. Graves Red, 1899	10·23	12·68	86·77	3·00	0·756	0·160	0·306	0·324	0·129	0·48	0 40	0·146	0 25
Chateau Pavie. 10. St. Emilion, 1899	10·16	12·57	86·79	3·06	0·550	0·100	0 212	0·395	0·102	0·52	0·47	0·259	0 30
Chateau Dauzac. 11. Laborde, 1899	9·29	11·52	88·25	2·46	0·580	0·135	0·200	0·388	0·132	0·46	0·42	0·158	0·26
Chateau Loudenne. 12. St. Yzans	9·96	12·35	87·38	2 66	0·620	0·143	0·236	0·299	0·102	0·46	0·40	0·180	0 23
Ducru Beaucaillou. 13. St. Julien, 1895	9·64	11·96	88·06	2·30	0·665	0·090	0·236	0·317	0·138	0·50	0·44	0·200	0 30
Chateau Lafite. 14. Pauillac, 1896	9·96	12·30	88 74	1·30	0·462	0·120	0·236	0·211	0·096	0·49	0·43	0·100	0·17
Mean results	9·83	12·12	87·61	2·55	0 642	0·130	0 238	0·278	0·127	0·46	0·40	0 166	0 22

* This column gives the total acidity less that due to tannic acid.

TABLE B.—ANALYSES OF TYPES OF CLARETS BOUGHT IN THE OPEN MARKET.

(Results in Grammes per 100 c.c.)

Description.	Alcohol by weight.	Alcohol by volume.	Water.	Extractives.	Glycerine.	Sugar.	Tannin.	Proteid = N × 6·3.	Total volatile acidity as acetic acid.	Total fixed acidity as tartaric acid.	Probable real tartaric acid.*	Potassium tartrate.	Total mineral matter.	Observations.
Claret. 1. Vin Ordinaire	10·77	13·34	87·00	2·23	0·624	0·111	0·236	0·246	0·111	0·55	0·49	0·113	0·20	Sound natural wine.
2. Médoc	10·00	12·40	87·10	2·90	0·706	0·340	0·177	0·204	0·090	0·48	0·45	0·124	0·19	A non-acid, agreeable, soft wine and undoubtedly genuine.
St. Vivien. 3. Bourgeois Wine	9·50	11·79	87·40	3·10	0·980	0·100	0·236	0·141	0·126	0·50	0·44	0·113	0·18	A genuine wine but somewhat featureless.
Claret. 4. Bourgeois Wine	9·79	12·13	87·26	2·95	0·790	0·151	0·177	0·194	0·084	0·48	0·43	0·180	0·20	A type of excellent vin ordinaire.
Cotes. 5. Vin Ordinaire	8·14	10·12	89·96	1·90	0·564	0·100	0·200	0·176	0·180	0·39	0·35	0·056	0·10	Genuine wine but rather poor quality.
Château Montrose. 6. St. Estèphe, 1899	10·38	12·87	87·07	2·55	0·970	0·103	0·283	0·211	0·168	0·40	0·33	0·135	0·12	An elegant wine.
Château Lafite, 7. Pauillac, 1895.	10·06	11·52	87·40	2·54	0·780	0·090	0·330	0·229	0·165	0·39	0·31	0·200	0·23	A pure, soft, flavoury wine.
Mean results	9·80	12·02	87·59	2·59	0·776	0·142	0·232	0·201	0·132	0·45	0·40	0·131	0·17	—

* This column gives the total acidity less that due to tannic acid.

TABLE C.—ANALYSES OF PROBABLY BRITISH MADE WINES LABELED AS MÉDOC WINE.

(Results in Grammes per 100 c.c.)

Description.	Alcohol by weight.	Alcohol by volume.	Water.	Extractives.	Glycerine.	Sugar.	Tannin.	Proteid = N × 6·3.	Total volatile acidity as acetic acid.	Total fixed acidity as tartaric acid.	Probable real tartaric acid.*	Potassium tartrate.	Total mineral matter.	Observations.
1. Médoc	9·86	12·22	87·52	2·62	0·968	0·18	0·118	0·194	0·195	0·63	0·600	0·113	0·15	Fermented grape juice but not a Médoc wine.
2. Médoc	9·00	11·17	88·42	2·58	0·360	0·10	0·200	0·141	0·177	0·49	0·450	0·090	0·32	Fermented grape juice with uninteresting flavour.
3. Médoc	10·85	13·43	87·40	1·75	0·373	0·20	0·150	0·169	0·234	0·30	0·250	0·100	0·10	Fermented grape juice but not a Médoc wine.
4. St. Estèphe	12·38	15·30	84·28	3·34	0·901	0·55	0·236	0·070	0·171	0·57	0·510	0·056	0·13	Probably an unsound Médoc wine fortified with spirit.
Mean results	10·52	13·03	86·90	2·57	0·650	0·25	0·176	0·143	0·194	0·49	0·450	0·089	0·17	—

* This column gives the total acidity less that due to tannic acid.

TABLE D.—ANALYSES OF WHITE WINES.

(Results in Grammes per 100 c.c.)

Description.	Alcohol by weight.	Alcohol by volume.	Water.	Extractives.	Glycerine.	Sugar.	Tannin.	Proteid = N × 6·3.	Total volatile acidity as acetic acid.	Total fixed acidity as tartaric acid.	Potassium tartrate.	Total mineral matter.	Observations.
Château de Tastes. 1. Sauternes	12·85	15·86	69·60	17·50	0·853	14·000	Trace	0·356	0·090	0·48	0·339	0·36	A sweet wine with exquisite flavour.
Château de Rayne. 2. Sauternes	12·31	15·21	77·59	10·10	0·799	7·260	Trace	0·652	0·141	0·40	0·158	0·38	Less sweet than the previous wine but with excellent æsthetic qualities.
Petites Graves	8·71	10·82	88·84	2·45	0·541	0·263	Trace	0·141	0·135	0·73	0·169	0·23	A "dry," "clean" wine and of light alcoholic strength.
Grand Sec. 4. 1er Vin de Graves	11·47	14·18	86·28	2·25	0·605	0·240	Trace	0·246	0·129	0·63	0·079	0·20	A very agreeable wine with delicate flavour.

addition of a highly coloured wine or from the skins of other fruits. If wine is defined to be the fermented juice of the grape then such preparations may be entitled to the designation of wine, but it is obviously misleading to label them Bordeaux or Médoc wine as is invariably done and in some instances the name of a hypothetical château is printed on the label. Shippers and agents would materially protect the public against this form of fraud if they would make it a universal rule to have affixed to the bottle a label with some kind of guarantee printed upon it in the form of the name of the producer, importer, or agent. The importation of grape juice of course avoids the spirit duties and we are surprised that the revenue authorities do not take action summarily in the matter, since by this device they are deprived of so much duty on wine made necessarily from material imported from abroad. In any case, such wines should be labelled compulsorily with the words "British made." It should be mentioned, however, that a vigorous and successful action has been recently inaugurated against the sale of fraudulent wines of the class described and in Bordeaux a powerful "syndicate of defence," comprising some of the largest wine growers in France, has been formed with the view of protecting the public against this species of imposition.

As we have said, however, the result of our inquiry has shown that the proportion of mis-named wines offered to the public as compared with the genuine article is exceedingly small and suspicion, having regard to the duties on foreign wines, will easily fall on a so-called genuine Médoc which claims to be valued at a little over 6*d*. a bottle. But perfectly good, wholesome, genuine Médoc wine is obtainable at 1*s*. per bottle which, while bearing the characteristics of a Bordeaux wine, is simple in kind and somewhat short of the æsthetic qualities of more expensive wines. The price of a wine is, of course, entirely dependent on these qualities: it is flavour that is paid for in the case of wine, just as it is in so many other articles of consumption. The palate rules the price, but wine is wine after all. The cheaper clarets are produced in the north of the Médoc, in the islands of the Gironde, in the districts around Blaye, on the east bank of the Gironde, and from the "Palus" or low-lying districts, and are commonly drinkable in the second year. They are sound, wholesome wines of the bourgeois type and, of course, less delicate than the "classed" wines produced in the localities of Pauillac, St. Julien, or Margaux.

The land of white claret is chiefly the renowned district of Sauternes, though a considerable amount of white wines is grown in the bordering district of Graves. Strictly speaking, "vin des Graves" applies to those wines, both red and white, produced in the Graves district, although in this country the designation "Graves" nearly always implies a white wine. White claret is more often vin des Sauternes grown in the neighbourhood of Barsac, Priegnac, and Bommes. The composition of the wines of the Sauternes district shows wide variations, chiefly in regard to alcohol and sugar, and depends upon the variations in the quality of the grape. Broadly, there are three descriptions of wine—the very sweet (almost syrupy wines, recalling Tokay), the moderately sweet, and the dry. Examples of all three are given in Table D. As will be seen, the chief point of difference in the composition of a red and a white wine is the practical absence of tannin and colour in the latter, the juice being fermented after the removal of the skins. The "dry" wines in other respects resemble red wines, the amount of sugar, alcohol, and acidity, however, being in general higher while the percentage of albuminoids is lower consistently, as it were, with the absence of red colour. A somewhat high proportion of glycerine in the full, sweet wines will be observed to increase *pari passu* with the increased alcoholic strength. The sweet wines also contain a relatively high percentage of albuminoids.

We may next call attention to Table E in which the amounts of ethers, higher alcohols, and aldehydes in the various wines of the Gironde are compared. We believe that this is the first time that the analysis of wines has referred to these constituents and the results are of interest, first of all in showing that the higher alcohols and ethers in the wine are most frequently present in much the same ratio as in brandy —which if genuine is the distillate of wine in a simple still; and secondly, the amount of higher alcohols present increases with the age of the wine and when they occur in relatively large proportion the indication is generally in favour of a heavy full-bodied wine. The full sweet Sauternes, for example No. 15, contain as much as 500 grammes of higher alcohols per 100 litres of alcohol present and a high figure is also reached by the dry Sauternes, while [the average of a number of light clarets is between 160 and 109 grammes per 100 litres of alcohol present, a figure which is given by ordinary genuine brandies. The somewhat heavy character of Sauternes apart from their relatively high alcoholic strength is probably in part due to the development of alcohols of the higher series. The ethers in Sauternes wines are, again, generally speaking, higher in amount than in the Médoc wines. The aldehydes vary but little, the highest (a St. Emilion wine) being 7·00 and the lowest (an old Latour wine) 3·50. In certain instances a high proportion of higher alcohols corresponds with a relatively high amount of glycerine except in the case of wines of doubtful origin or

TABLE E.—*Volatile Ethers, Higher Alcohols, and Aldehydes in Clarets, &c., in Grammes per 100 Litres of Alcohol present.*

Description.	Volatile ethers calculated as ethyl acetate.	Higher alcohols.	Aldehydes.	Observations.
Leoville-Lascases. 1. St. Julien, 1890... ...	281·00	116·00	5·80	—
Rauzan-Ségla. 2. Margaux, 1898	286·00	163·00	4·70	—
Château Palmer. 3. Cantenac, 1899	252·00	170·00	5·20	—
Château Langoa. 4. St. Julien, 1898... ...	265·00	227·00	4·50	—
Château d'Issan. 5. Cantenac, 1899	284·00	160·00	5·00	—
Montrosé St. Estèphe. 6. Médoc, 1899	258·00	212·00	5·30	—
Château Latour. 7. Pauillac, 1880	286·00	300·00	3·50	—
Petrus Pomerol. 8. St. Emilion, 1900 ...	260·00	232·00	7·00	—
Château Haut Brion. 9. Graves Red, 1899 ...	228·00	146·00	4·70	—
Château Pavie. 10. St. Emilion, 1899 ...	228·00	250·00	6·20	—
Château Dauzac. 11. Labarde, 1899	303·00	209·00	4·60	—
Château La Lagune. 12. Ludon, 1890	190·00	217·00	5·40	—
Ducru Beaucaillou. 13. St. Julien, 1893... ...	400·00	264·00	5·00	—
Château Lafite. 14. Pauillac, 1896	309·00	319·00	5·30	—
Château de Taste. 15. Sauternes	377·00	564·00	4·30	—
De Rayne Vigneau. 16. Sauternes	335·00	563·00	5·90	—
Petites Graves 17. Vin Ordinaire	297·00	500·00	5·60	—
Grand Sec. 18. 1er Vin de Graves ...	463·00	184·00	5·40	—
Claret. 19. Vin Ordinaire	232·00	137·00	5·00	Purchased in London.
Claret. 20. Bourgeois Wine ...	270·00	109·00	Nil.	,,
St. Vivien. 21. Bourgeois Wine ...	300·00	109·00	5·40	,,
Claret. 22. Bourgeois Wine ...	245·00	109·00	5·40	,,
Côtes. 23. Vin Ordinaire	311·00	160·00	6·70	,,
24. Médoc	326·00	170·00	6·00	,,
Château Montrose. 25. St. Estèphe, 1899 ...	270·00	200·00	5·00	,,
Château Lafite. 26. Pauillac, 1896	306·00	180·00	5·00	,,

basis wines to which it is probable that glycerine is sometimes added.

SOME EXPERIMENTS BEARING UPON THE EFFECTS OF CLARET ON THE CHEMICAL PROCESS OF DIGESTION.

In recording the results showing the effects of claret and other wines upon the processes of digestion it should be stated that the present experiments were of a purely chemical and not physiological kind. That is to say, the experiments were conducted *in vitro*, employing artificial gastric juice and pancreatic juice respectively. Nevertheless, the results are of comparative interest as indicating at any rate the influence of wine and of claret in particular on the chemical process of digestion. Whatever may be the effect shown in experiments conducted *in vitro*, it must be remembered that *in vivo* good wine has a favourable influence upon the gastric function, which would, it is not unlikely, more than compensate for any discrepancy seen to exist in an experiment in which the effect of wine upon the merely hydrolysing action of a ferment—pepsin or pancreatin—is tried. It is generally conceded that the net result of a moderate use of wines, and especially light wines, with meals is favourable because they induce an increase of appetite and gastric secretion, and thus it is conceivable that even if the mere chemical process of digestion is interfered with at all such interference would be completely balanced by the healthy stimulus given to the gastric function. Upon this effect of wines is, in fact, based their use in health and disease. It will be seen from Table F that light natural clarets have only a trifling inhibitory and practically negligible effect upon the chemical activity of the gastric ferment, while there is a small retarding influence in the case of pancreatic digestion. Apparently those clarets which are of a light delicate character retard the processes of chemical digestion least, and in this category we must, of course, place the older "classed" wines. Nevertheless, wines of the *vin ordinaire* type show only a small disturbing effect upon digestion, an effect which probably is not produced at all in the living organism owing to the stimulating action of wine on the gastric function. In Table G also are included the results of two experiments with a solution containing amounts of tannin occurring in different clarets. Contrary to expectation, these solutions showed practically no inhibitory effect on the digestion of albumin. According to this the tannin of red wine would not appear to interfere with the process of digestion and in this connexion it may be called to mind that an ordinary cupful of tea contains a good deal more tannin than does an equal volume of claret. Also in the same table the results are shown of the effects on digestion of pure grape juice grown in the Médoc. Here there is evidently a marked inhibitory action which is diminished, however, as the grape juice is diluted with water.

When the activity of pepsin is interfered with at all by red wines it is generally due, we find, to the colouring matter of the wine, for as the intensity of the colour increases so is the inhibitory effect of the wine upon the chemical process of digestion increased. And when the colour of the wine is taken out with animal charcoal we found (see number 18 in Table F) that the decolourised wine has no appreciably interfering effect at all upon the digestive process. As already pointed out, animal charcoal extracts from wine its colouring matters, its nitrogenous bodies, and its tannin, and since the nitrogenous bodies increase directly with the intensity of the colour and tannin has very little effect upon the digestive process, it would appear that the chief constituent of red wine that is inhibitory to the chemical process of digestion is a nitrogenous body closely associated with the colouring matter. This result is very interesting as tending to indicate that old wines with low intensity of colour and delicacy of character are, from the point of view of dietetics, better than young, robust, highly coloured wines. On the other hand, old wines are richer in volatile bodies other than alcohol, such as ethers and higher alcohols, than are young wines, and in some cases, at any rate, these bodies seem to have a slight retarding influence on the digestive process. Colour being absent in white wines these when of a light character have a smaller inhibitory effect as a rule than red wines. Lastly, when a claret was distilled and the resulting weak spirit from it made up to the original volume of the claret and added to digestive agents there was practically no retarding effect. The distillate so tested was of the same alcoholic strength as the claret—i.e., 10 per cent.—and contained, of course, the volatile constituents of the wine, the colouring matters, &c., being left behind in the still. The actual result is shown in Table G. On the whole, therefore, we conclude that claret,

TABLE F.—*Digestion Experiments in Vitro.*

Description.	Pepsin. Percentage of albumin digested in 3 hours.	Pancreatin. Percentage of albumin digested in 3 hours.	Observations.
Leoville-Lascases. 1. St. Julien, 1890 ...	88·60	50·20	—
Rauzan Ségla. 2. Margaux, 1896... ...	84·00	—	—
Château Langoa. 3. St. Julien	80·00	54·00	—
Château d'Issan. 4. Cantenac, 1899 ...	81·00	—	—
Montrose St. Estèphe. 5. Médoc, 1899	79·40	—	—
Château Latour. 6. Pauillac, 1880	74·40	72·20	—
Château Haut Brion. 7. Graves Red, 1899 ...	71·00	—	—
Château Pavie. 8. Médoc, 1899	60·00	—	—
Château Dauzac. 9. Labarde, 1899	64·20	—	—
Château Lagune. 10. Ludon, 1890	66·20	—	
Ducru Beaucaillou. 11. St. Julien, 1893 ...	78·00	—	
Château Lafite. 12. Pauillac, 1896	69·00	—	—
Beychevelle. 13. St. Julien, 1890 ...	—	47·00	—
Kirwan. 14. Cantenac	—	61·56	—
Château de Rayne. 15. Sauternes...	70·00	—	—
Petites Graves. 16. Vin Ordinaire	80·00	—	—
Grand Sec. 17. 1er Vin de Graves ...	78·40	64·90	—
Vin Ordinaire. 18. Médoc...	80·00 (When decolourised 83·00)	82·06	Purchased in London.
Vin Ordinaire. 19. Médoc	77·80	—	"
St. Vivien. 20. Bourgeois Wine ...	64·20	51·30	"
Claret. 21. Bourgeois Wine ...	64·80	—	"
Côtes. 22. Vin Ordinaire	87·50	—	"

TABLE G.—*Digestion Experiments with Tannin, Grape Juice, and the Distillate of Claret.*

Description.	Pepsin. Percentage of albumin digested in 3 hours.	Pancreatin. Percentage of albumin digested in 3 hours.	Observations.
Tannin, 0·1 per cent. ...	92·00	—	—
Tannin, 0·2 per cent. ...	91·00	—	—
Grape juice (Médoc), pure	41·40	—	—
Grape juice, 20 per cent., ½ diluted	61·00	—	—
Distillate of claret = Brandy 10 per cent. alcohol	93·00	—	—
Water and pepsin + 1 gramme of albumin	95·00	—	—

when employed in moderate quantities, has very little, if any, retarding influence upon the chemical process of digestion and that when any effect is shown it is probably due in most cases to the colouring matter and in some cases it may possibly be owing to a high proportion of higher alcohols and ethers. The same remarks appear to apply to the few instances in which the effect of wines upon pancreatic digestion was tried. As already stated, however, these digestive experiments, while of undoubted relative interest, cannot be expected to throw much light on actual physiological conditions, especially as it is well known that wine has a decidedly stimulating action on the digestive functions.

Finally, in view of these recent experiments which we have made it is interesting to quote some of the statements from the report of THE LANCET Commission on the Medical Use of Wines, published in THE LANCET of July 24th, 1880, p. 146, especially as at that time analytical science was not so far advanced as it is now. "There are few conditions," it is therein written, "in which they (i.e. Bordeaux red wines) really disagree taken in ordinary quantities; their especal value consists in the fact that when taken with meals they are true tonics and have neither a stimulating nor a sedative effect. Even the higher priced red clarets are much less stimulating than the Sauternes and of course cannot be compared for a moment in this respect to either the red or the white Burgundies. The tonic effect of claret is due most probably to the peculiar combination of tannin with a certain but low percentage of alcohol, and it is remarkable how little variation in chemical composition exists between true red clarets although the price differs very greatly. The year of vintage, the age of the wine, the characteristics of the vineyard, by determining the bouquet and fragrance of the wine, enhance the price but interfere only very slightly indeed with its chief constituents as far as can be shown by chemical analysis. In cases of anæmia, ordinary debility from overwork, feeble digestion, &c., a sound red claret is almost as good a prescription as most of the tonic drugs in the Pharmacopœia and is always an advantageous adjunct to this class of remedies. Of course it must only be taken with meals and in no case should more than half a bottle be permitted with the meal. In this quantity the amount of alcohol is very small as may be seen by the analyses. In addition to the tonic properties of red claret its value in increasing the appetite and aiding digestion is of great importance. Many patients who can eat but little and so lose strength, especially in hot weather, improve very much if they take wine with their meals, and for this purpose claret is especially suitable. The percentage of grape sugar is very small indeed; it is much less than in ordinary Sauternes, or white clarets, although not so small as in the specimens of Chablis and Meursault to which we referred in our former article. Hence the diabetic patient may safely take an occasional wineglass of red claret, and there is this special advantage—that he need not be prohibited from the more expensive wine of this class, whereas Sauternes and white Burgundies of high class would inevitably increase his malady. Clarets are generally spoken of as 'sour' wines and avoided by the gouty and rheumatic but this is certainly a mistake. The amount of fixed acid is less than in most wines and the low percentage of alcohol is a still further advantage in such cases. In several cases of atonic gout a glass or two of good claret daily has been taken with great benefit although the patients may have been told that whisky, gin, and brandy were the only permissible forms in which they should take alcohol. In the treatment of persons with a tendency to obesity claret, as is well known, is particularly useful and it is doubtless also in part at least due to the absence of any amount of unfermented sugar. The amount of tannin sufficiently explains the slight astringent character of red wine and this is of great advantage in treating cases of atonic and so-called bilious dyspepsia and anæmia and patients with any tendency to relaxed or chronically congested mucous membranes. It is this astringency which clinically separates the thin red clarets from the thin white ones and renders them available for so many more forms of disease. Of course when diluted they are as grateful as refrigerants in cases of fever, and in hot weather as are the corresponding white varieties."

FIG. 4.

A typical Médoc press.

Again, "good sound red Bordeaux wines evidently differ very little in rough analysis and a patient may take either the cheaper or the more expensive varieties without running any risk of their having different medicinal effects, provided he is satisfied that he is dealing with a true claret. ..... The importance of this constancy in chemical composition is the more striking if we compare it with the great variability that is shown by the different typical samples of the white Bordeaux and white Burgundy wines which we have referred to in previous articles."

These interesting statements of THE LANCET Commission of a quarter of a century ago might have been written with equal force and truth in the light of recent inquiry. In the interval objectionable practices may have stepped in, but the conclusions of this Commission in 1880 are completely endorsed in 1905 by the conclusions of our Commissioner, who points out that, in spite of a certain amount of incredulity existing in the public mind, the statement published in an annotation a little over a year ago in THE LANCET to the effect that "Bordeaux wines or claret were never cheaper, more abundant, and purer than they are in the present day" is completely justified by his recent investigation of the sources of supply and by the analyses of the wines now actually offered to the public.

THE ALIEN QUESTION AND THE NEW ALIENS ACT.

To the manner in which foreigners of all sorts and conditions have been allowed free ingress into Great Britain have been attributed many ills by many people. Questions of morality, questions of public health, and questions of political economy have all been imported into the debates upon the modification of the laws relating to alien immigration, and all are germane to such debates. It follows, therefore, that all medical men, at any rate for the first two reasons, must be interested in the working of the Aliens Act.

We may begin by blessing the Act, and, in doing so, must disclaim any political bias whatever. The new regulations for restricting immigration, with the view of excluding undesirable persons from this country, are, of course, as yet on their trial, and no definite opinion can be passed as to their efficacy until this trial has been more extended. For the present it seems to us that the working of the new Act will be in many respects beneficial to the community at large. From the medical and sanitary standpoint it must be in the interests of public health that those suffering from any complaint which is communicable to others, or which is likely to act as a hindrance to their obtaining work, should be prevented from landing on our shores. The question whether immigrants, even if in good health, should be allowed to settle in our already densely populated cities, there to aggravate the insanitary conditions prevalent because of overcrowding, is left aside as being, for the time at any rate, not under consideration. Whatever our views upon the national expediency of excluding good and wholesome workers from our shores because of the very bad and unwholesome effects in some places of over-competition, there can be only one opinion concerning weakly and undesirable individuals. We ought not to welcome them, at any rate our welcome must be only such as bare humanity compels, for kindness to them means cruelty to others. The Aliens Act hardly attempts to solve the mass of sociological problems which confront us when for any reason we propose to stem a natural tide of immigration, but for the present, having regard to public health, it is, we think, a step in the right direction. The procedures under the Act which follow and which have a direct bearing upon public health will be of interest to the readers of THE LANCET.

The immigration ports under the Act are Cardiff, Dover, Folkestone, Grangemouth, Harwich, Hull, Leith, Liverpool, London, Newhaven, Southampton, and the Tyne ports, at which ports immigration officers and medical inspectors have been appointed and immigration boards have been established. Naturally, London receives the larger number of those desirous of making this country their home, and the majority of immigrants, having successfully landed in London, do not proceed further than London. London was their original aim, because in London they are sure to find persons of their own nationality and their own tastes, whatever these may be, and to London they cling. Medical inspection at the Port of London is therefore of particular importance, comprising a substantial proportion of the working of the Act. There arrived at the Port of London during the month of December, 1905, 3315 aliens; and during the same period 11,904 aliens arrived at all the immigration ports of the United Kingdom. The proportion of aliens received in London and elsewhere throughout the whole year 1905 was a little different, for London received during 1905 43,422 aliens (or 835 per week), while the other ports of immigration received 196,529. The proportion of children to the total number of alien passengers in 1904 was 6·6, and the proportion of males to females of all ages was as 2 to 1. The detailed figures for 1905 are not yet available, but these ratios are probably being maintained.

The inspection is made on board the vessels which carry the immigrants, Dr. Herbert Williams, the medical officer of health for the Port of London, supported by a staff of medical inspectors, being responsible for the proper working of the entire machinery of inspection. The routine of inspection is as follows. One medical officer is stationed at Gravesend where the vessels bearing immigrants have all to stop to receive *pratique*. His whole time is given up to medical inspection. He has the services of three medical officers to assist him in the examination of the immigrants which takes place on board the vessels daily between the hours of 7 A.M. and 8 P.M. In the hours of darkness adequate light must be provided, but as many of the vessels are now fitted up with electric light the work often can be done when natural light fails. Medical inspection is first concerned with infectious diseases. If any malady coming under this head be detected the sufferer is isolated and dealt with in the usual way; that is to say, he is landed at the hospital of the Port of London Sanitary Authority at Denton and the ship is allowed to proceed after thorough disinfection. As regards conditional disembarkation to a hospital, the regulation is that when an immigrant, in the opinion of the port medical officer of health or medical inspector, must be removed from a ship for treatment or observation at a hospital he is conditionally disembarked for the purpose, but is liable before release from the hospital to inspection for the general purposes of the Act. Absence of infectious disease having been established, or those suffering from infectious disorder having been thus separated, medical inspection is now directed towards the elimination of the undesirable immigrant. The undesirable immigrant on medical grounds, roughly speaking, is one who is a lunatic, an idiot, or who is suffering from any infirmity which appears likely to render the person an immediate charge to the rates or otherwise a detriment to the public. Physique is taken into consideration, that is to say, an individual of obviously defective physique is regarded from a medical point of view as an undesirable immigrant and his case must be dealt with specially by the immigration board. Age is another point which is taken into account. There are no exact standards on either point, the whole matter of physical fitness, in which age may be a very important factor or may not, being left to the discretion of those making the medical examination.

After the medical inspector at Gravesend has examined the immigrants, has separated any cases that may be suffering from infectious disease, and has noted any physical conditions which, in his opinion, should act as a bar to admission, Dr. Williams personally makes a second medical inspection, after which the immigrant appears before the Immigration Board, which meets at Blackwall and which deals finally with the case. Every immigrant is here allowed to plead his or her own cause, the evidence of friends is received, and official interpreters are provided, so that no one may be rejected unheard or misunderstood. The Immigration Board consists of 20 members chosen from among persons having magisterial, business, or administrative experience, of whom three are summoned in rotation to form a working board. A member who is a magistrate must of necessity take the chair. At the Port of London several members of this board are of the Hebrew faith, and so far one of the three sitting members has always been a Hebrew. The work of the Board is both arduous and tedious and up to the present the duties, as far as we can learn, have been performed with strict impartiality. The medical questions are the most easy for the Board to dispose of because of the carefully organised expert help that is given.

The most frequent pathological condition which has been encountered since the Act has been in force has been valvular disease of the heart, though several immigrants have been deported on account of venereal disease and some deformed persons, especially of the female sex, have been rejected. Perhaps the most striking feature in connexion with the passage of the Act has been the disappearance of cases of trachoma among the immigrants. In fact, hardly a case of this troublesome and contagious affliction has been seen on the immigrant ships since Jan. 1st, while formerly cases were met with on nearly every vessel. The absence of trachoma among the immigrants is undoubtedly due to the action of the Act, which has had a deterrent effect upon the other side of the water. It is known that the provisions of the Act as regards certain diseases will be strictly enforced and consequently the steamship authorities are far more particular in regard to their immigrant passengers. Sufferers from obvious physical ills cannot get passages, as the steamship authorities know that they may have the cost of taking them back again gratuitously. They now require to become more particular in regard to the accommodation which they are prepared to supply to those passengers. We have spoken of improvements that have recently taken place

in the matter of lighting, whilst the water-supply and general arrangements for washing are better than they used to be on this class of boat. But these are the only words of commendation that in most cases can be used. Practically all the vessels which come into the Port of London with immigrants are foreign vessels, and it is certain that some of these are in a very insanitary condition and offer the most inadequate accommodation to their wretched living freight. The sexes are mixed, there is inadequate lavatory provision, and, to speak generally, the state of some of these ships may be described as simply filthy. In this connexion the nationality of the incomers must be borne in mind and too much blame must not be attributed to those responsible for the state of the vessels. The class of immigrants to Great Britain is, on the whole, bad, though it is no worse now than it used to be. The majority of those who come to London are Polish Jews or Jews from Eastern Europe. Looking back to the statistics of 1904 we find that of 82,848 aliens known to have settled in Great Britain 46,095 were either Russians or Poles and at least a similar ratio of nationalities is being maintained. They are, as a rule, of indifferent physique, wretchedly poor, and unclean in their habits, and however good the quarters offered them might be at the beginning of the voyage, short as that voyage usually is they may be trusted to foul their nest. With regard to their poverty they are supposed to be in possession of £5 before permission is given to enter the country, but this regulation since the Act became law has been on many occasions waived, mainly on the immigrant proffering the plea that he was the victim of religious persecution in Russia. There are, however, more rejections made for economical reasons than for physical disabilities.

Transmigrants having prepaid tickets are not liable to medical inspection or general inquisition at the immigration ports of Great Britain but opportunity is always taken for medical examination lest there should be among these people any disease coming within the meaning of the Public Health Act.

THE MEDICAL PROFESSION IN THE TRANSVAAL.

WE recently dealt with the regulations for medical practice in the Orange River Colony[1] and we now have before us a copy of the Ordinance enacted in 1904 in the Transvaal "for the registration of medical practitioners, dentists, chemists and druggists, midwives and nurses, and for the better regulation of medical practice and the sale and dispensing of drugs, medicines, and poisons," and also a copy of the regulations for midwives and trained nurses framed under the Ordinance by the Transvaal Medical Council which it has called into being. Of the precise date upon which by the proclamation of the Lieutenant-Governor the main portion of the Ordinance came, or will come, into force we are not aware, but the section which provided for the constitution of the Transvaal Medical Council, and of the Transvaal Pharmacy Board became operative at once, and the regulations for midwives referred to are a sample of the industry of the former body. The council consists of eight medical practitioners and two dentists, six of the former and one of the latter being elected by their brother practitioners and the others being appointed by the Lieutenant-Governor, who has to nominate as one of the medical members the medical officer of health of the colony. The board consists of one member of the council deputed by it to act and of five chemists and druggists, two of them appointed by the Lieutenant-Governor and the other three elected.

Both the Ordinance and the regulations for midwives are of interest to the medical profession in England because they must be deemed to have been the work of their brethren in a great and new colony who have based them upon corresponding laws and regulations in England or have studied these and have declined to adapt portions of them to their own use. In the Transvaal Ordinance a point of difference from the English law arises from the natural circumstances of a colony, so that we find provision for the admission to practice of medical men and dentists holding the degrees, diplomas, or certificates of foreign or colonial universities or medical schools. These are to be granted certificates subject to conditions securing their efficiency, with a further requirement of proof "that by the laws of the country in which such degree or diploma was conferred, British subjects legally qualified to practise as medical practitioners or dentists in Great Britain and Ireland are afforded privileges equivalent to those granted by registration under the Ordinance," a form of reciprocity to which the most ardent advocate of free trade in commercial matters should not object.

In the portion of the Ordinance which relates to pharmacy and to the sale of poisons we note a section which provides severe penalties not only for any "medical practitioner, chemist and druggist, veterinary surgeon, or other person entitled to keep or sell poisons" who shall contravene the regulations relating to these, but also for any person thus defined "who shall sell or keep for sale by himself or any apprentice, servant, or agent any medicines or drugs of bad quality." Generally speaking, the sale of poisons is to be conducted upon similar lines to those followed in England—that is to say, a schedule divided into two parts is appended to the Ordinance in which various poisons are entered, with provision for the addition of others when required, the one part of the schedule containing names of poisons which must not be sold unless the purchaser is known to, or introduced to, the seller and in the case of which full particulars of the sale have to be recorded, the second part containing those for which a label will be sufficient bearing the name of the article, the word "poison," and the name of the seller. It is interesting to note in this connexion the consideration given by the Transvaal legislature to the sale of vermin-killers containing poison. A divisional court recently held[2] that a compound known as "Rankin's ointment" sold for the destruction of vermin in the human hair must be classed in Part II. of the schedule of poisons as a vermin-killer, although it contains a poison which sold by itself would come under the provisions of Part I., there being special mention of poisons compounded for use as vermin-killers in Part II. and no mention of them in Part I. The Transvaal Ordinance has anticipated the difficulty which was not foreseen in England when vermin-killers were placed specifically in Part II., for it says in Part II. of its schedule that "vermin-killers, compounds containing poisons prepared for the destruction of vermin, if not subject to the provisions of Part I. are in Part II.," and it definitely includes vermin-killers in Part I. if these are preparations of poisons subject to Part I. when uncompounded. This is certainly better than to allow drugs so dangerous that their sale is to be guarded specially when they are pure to be sold with the mere protection of the label when they are associated with other substances and are ostensibly sold for an apparently harmless purpose.

The most important feature, however, of the Transvaal Ordinance in the opinion of many will be the introduction in the colonial law of the provision which it appears useless to hope for in the mother country that no person "shall be entitled to practise as a medical practitioner or dentist unless he has obtained a registration certificate," coupled with a section forbidding the illegal use of medical titles in terms similar to those to which we are accustomed but better calculated to cover the cases which are likely to arise. No less interesting to us also is a section which orders that "no society or association of persons who are not registered under this Ordinance may use the descriptions or titles provided herein nor may any company incorporated by law carry on the business of chemist and druggist unless the managing director of such company is a duly registered chemist and druggist and unless the name of the assistant, who himself must be qualified under this Ordinance, managing such shop or other place in which the business is carried on by the company is conspicuously posted in such shop or place; provided that anything which would be an offence under this Ordinance if committed by an individual shall be an offence by every director of a company if committed by such company; provided, further, that nothing in this section shall be held to prevent the employment by any such registered dentist or chemist and druggist, as the case may be, of an unqualified assistant or assistants for the purpose of mechanical dental work or of compounding drugs and dispensing medicines under his personal supervision." Subject to any questions of detail which may arise in the process of enforcing this

[1] THE LANCET, Oct. 7th, 1905, p. 1042.

[2] See THE LANCET, Jan. 6th, 1906, p. 61.

section and the others which we have quoted bearing upon the same subject, we should be inclined to say that unqualified practice and the sale of drugs by unqualified persons are alike forbidden in the Transvaal in such terms that the most ingenious quack should find even the registered company fraud insufficient to protect him.

The regulations framed by the Transvaal Medical Council for midwives naturally call for less comment than the Ordinance, affecting as they do a matter of less wide importance. They also appear not to differ in general principles from those framed by the Central Midwives Board, although variations in matters of detail might easily be found and noted for consideration whenever the last-named body proceeds to revise and to amend its rules in the light fo its own experience and that of others. We observe, however, that the midwife already in practice has more stringent conditions to comply with in the Transvaal than with us and that the general fitness of the midwife for her position as apart from her training has been the subject of considerable solicitude to the Medical Council. In the case both of the existing midwife and of the one who asks for registration on the ground that she has received an education qualifying her to fulfil her duties the same condition obtains with regard to her character—that it must be attested by "a magistrate, or a minister of religion, or a medical practitioner of this colony;" and, again, her personal health is deemed to be of sufficient importance to her patients for a certificate to be demanded "signed by a registered medical practitioner in this colony to the effect that the applicant's state of health is such that no danger to her patients would be involved by her admission to practice as a certificated midwife." Both these rules, it will be observed, tend to render the medical profession at large responsible jointly with the Council and in coöperation with it for the selection of suitable women as midwives and the inclusion of trained nurses under the jurisdiction of the Medical Council will also be noted. The regulations affecting these accompany those relating to midwives and in these also the registered medical practitioner is prominent upon the list of those whose testimonial to the nurse's health and personal character is necessary.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A COMITIA was held on Jan. 25th, Sir RICHARD DOUGLAS POWELL, Bart., K.C.V.O., the President, being in the chair.

The PRESIDENT announced that the Council had appointed Captain Leonard Rogers, I.M.S., as Milroy lecturer for 1907, and that he had selected as his subject Kala-azar, its Differentiation and Etiology.

The following gentlemen having passed the required examination were admitted as Members of the College: Joseph Arthur Arkwright, M.D. Cantab., L.R.C.P. Lond.; William Carnegie Brown, M.D. Aberd.; and Robert Fielding-Ould, M.A., M.D. Oxon.

Licences to practise physic were granted to 100 gentlemen who had passed the necessary examination.

Diplomas in Public Health were granted jointly with the Royal College of Surgeons of England to the following gentlemen: Amelius Cyril Birt, L.R.C.P. Lond., M.R.C.S. Eng.; Henry Caird, M.B., Ch.B. Edin.; Herbert Chesson, L.R.C.P. Lond., M.R.C.S. Eng.; John Moore Collyns, M.B. Lond., L.R.C.P. Lond., M.R.C.S. Eng.; Gerald Corcoran, L.R.C.P. & S. Irel.; James Gillies, M.B., C.M. Edin.; Captain Frederic Harvey, R.A.M.C., L.R.C.P. Lond., M.R.C.S. Eng., L.S.A.; George Haylett Lock, L.R.C.P. Lond., M.R.C.S. Eng.; Greer Edmund Malcolmson, M.D. Lond.; Percy Knowles Muspratt, M.B., B.S. Cantab., L.R.C.P. Lond., M.R.C.S. Eng.; John Ford Northcott, M.D. Lond., L.R.C.P. Lond., M.R.C.S. Eng.; Owen Herbert Peters, M.B., Ch.B. Melb.; Lieutenant John William Symth Seccombe, R.A.M.C., L.R.C.P. Lond., M.R.C.S. Eng.; Frank Blenkinsopp Skerrett, M.B. Lond., L.R.C.P. Lond., M.R.C.S. Eng.; Captain Lessel Philip Stephen, I.M.S., M.B., Ch.B. Aberd.; Philip Graham Stock, L.R.C.P. Lond., M.R.C.S. Eng.; Lieutent-Colonel Thomas Bassel Winter, R.A.M.C., M.R.C.S. Eng., L.S.A.; and Cyril Haworth Wright, M.B., Ch.B. Edin.

The following communications were received: 1. From the Secretary of State for the Colonies (Jan. 11th) in reply to the Registrar's letter informing him of the steps taken by the Royal Colleges in the matter of tropical medicine. The letter was as follows:—

Downing-street, Jan. 11th, 1906.

DEAR SIR,—I am directed by the Earl of Elgin to acknowledge the receipt of your letter of the 3rd instant and to state that his lordship has perused it with interest and has learnt with satisfaction the arrangements which are being made by the Royal College of Physicians of London and the Royal College of Surgeons of England for the recognition of tropical medicine.

I am, Sir, your obedient servant,

The Registrar, Royal College of Physicians. FRED. GRAHAM.

2. From the Royal Sanitary Institute, inviting the College to appoint delegates to attend the congress of the institute at Bristol from July 9th to 14th, 1906. The invitation was accepted. The PRESIDENT nominated Dr. H. Handford as one of the delegates and the nomination of a second delegate was postponed. 3. From the secretary of the Royal College of Surgeons of England reporting some of the proceedings of its Council on Jan. 11th. 4. From the director of the Whitechapel Art Gallery thanking the College for its promised loan of pictures for March and April.

The PRESIDENT and the TREASURER drew attention to the portrait of His Majesty the King by Luke Fildes, R.A. The portrait had been procured partly by the surplus of money received for the seating arrangements for viewing the Coronation procession and partly by subscription.

On the nomination of the Council the following Fellows were elected councillors: Professor W. Osler, Dr. H. Radcliffe Crocker, Dr. H. H. Tooth, and Dr. T. D. Acland.

Dr. F. H. CHAMPNEYS moved the following proposition, which was seconded by the SECOND CENSOR (Dr. NORMAN MOORE):—

That a committee be appointed to examine and report on the curriculum in midwifery and diseases of women. That the committee consist of all obstetric physicians and assistant obstetric physicians of the London medical schools who are Fellows of the College, with power to add to their number.

On the motion of Dr. L. E. SHAW, seconded by the THIRD CENSOR (Dr. FREDERICK TAYLOR), the following words were added to the proposition: "With the addition of four Fellows who have been deans of medical schools." The proposition was carried and the following four Fellows were nominated to serve on the committee in consequence of Dr. Shaw's proposal: Dr. H. G. Turney, Dr. R. H. P. Crawfurd, Dr. J. Fawcett, and Dr. A. Latham.

Dr. C. Theodore Williams was re-elected as a representative of the College on the Court of Governors of the University of Birmingham for three years from Jan. 1st, 1906.

Dr. Champneys was re-appointed as a representative of the College on the Central Midwives Board for one year from March 31st next.

The quarterly report of the College finance committee, dated Jan. 11th, 1906, was received and adopted.

A report was received and adopted from the representative of the College on the General Medical Council (Dr. Norman Moore) concerning the meetings in November and December, 1905.

A report from the committee of management dated Dec. 18th, 1905, was received and adopted. The report recommended that the course of laboratory instruction in public health at the Royal Institute of Public Health, London, should be recognised as fulfilling the requirements of regulations for Part I. of the examination for the diploma in Public Health.

A second report from the same, dated Jan. 4th, was received and adopted. It was based on the following reference from the Royal College of Surgeons of May 11th last:—

That it be referred to the committee of management to consider and report as to the desirability of treating chemistry, physics, and biology as subjects of preliminary education and of requiring that an examination in these subjects should be passed before the recognition of the commencement of medical studies; and to further report as to the desirability of the two Colleges approaching the University and other examining bodies with a view to adopting a five years' curriculum of professional study from the date of passing the preliminary science examination.

The report was a very full and elaborate one and the conclusions arrived at were as follows:—

1. That it is undesirable to treat chemistry, physics, and biology as subjects of preliminary education. 2. That it is undesirable to require an examination in chemistry, physics, and biology to be passed before the recognition of the commencement of medical studies. 3. That it is therefore undesirable that the Royal Colleges should approach the Universities and other examining bodies with a view to adopting a five years' curriculum of professional study from the date of passing the preliminary science examination.

A further report was received from the committee of management of the same date and was adopted. The report recommended that the South-Eastern College, Ramsgate, should be added to the list of institutions recognised by the Examining Board in England for instruction in chemistry and physics.

A list of books and other publications presented to the library during the past quarter was received and the thanks of the College were given to the donors. The annual return by the examiners of the results of the examinations for the Licence in the year 1905 was received and adopted.

The PRESIDENT then dissolved the Comitia.

THE MORISON LECTURES.

THE first of these lectures was delivered in the hall of the Royal College of Physicians, Edinburgh, on Jan. 24th, by Dr. W. Ford Robertson, pathologist to the Scottish Asylums, the subject being "The Pathology of General Paralysis of the Insane." The lecturer first remarked upon the prevalence and recent increase of general paralysis. He said he intended to devote the time at his disposal mainly to a consideration of the results of the investigations made by his colleagues and himself. After referring to the current opinions regarding the pathology of the disease and briefly describing the chief pathological changes that were known to occur in the central nervous system, he proceeded to give an account of the researches that had been carried out in the laboratory of the Scottish Asylums and at Morningside and Murthly Asylums. Convinced that the syphilitic hypothesis did not fully account for the facts and that general paralysis was the result of some form of active bacterial toxæmia, he had set himself to endeavour to localise the seat of origin of the toxins and to ascertain the exact nature of the toxæmia. About the same time Dr. Lewis C. Bruce had made independent clinical observations having the same aim. In 1901 Dr. Bruce had published a paper in which he descrioed the results of observations upon the temperature and the leucocytes, and in which he endorsed Dr. Macpherson's opinion that the most characteristic temperature in general paralysis was a recurrent febrile attack every one or two weeks. He also found that in the first and second stages the rises of temperature were accompanied by leucocytosis, whilst in the third stage there was often leucocytosis independently of any rise of temperature. Dr. Bruce contended that these phenomena pointed to the disease being directly due to poisoning by bacteria, the point of attack of which was probably the gastro-intestinal mucous membrane. The lecturer in a paper published at the same time had advanced evidence from the pathological side in support of the same view. He found that there was constantly a severe degree of chronic atrophic catarrh affecting the stomach or small intestine, or both, and that the morbid changes appeared to be associated with excessive development of bacteria in the alimentary tract.

Further evidence of the occurrence of a chronic toxæmia had been found by Dr. Ainslie who examined numerous arteries from various parts of the body and found that a condition of chronic endarteritis was constant and often extremely well marked, though irregular in distribution, even in cases of general paralysis in which senility could be excluded. About the same time Dr. D. Chalmers Watson had advanced very similar views regarding the pathogenesis of tabes dorsalis. In 1902 the lecturer, along with Dr. G. Douglas McRae and Dr. J. Jeffrey, had commenced a bacteriological research. They found that a diphtheroid bacillus was specially prominent in the gastro-intestinal and respiratory tracts in cases of general paralysis and that a similar organism could frequently be isolated from the brain. They advanced the hypothesis that general paralysis of the insane was the result of a chronic toxic infection from the respiratory and alimentary tracts, permitted by general and local impairment of the defences against bacteria and dependent upon the excessive development of various bacterial forms but especially upon the abundant growth of a Klebs-Löffler bacillus of modified virulence which gave the disease its special paralytic character. In their later investigations Dr. McRae and he had simply been putting this hypothesis to the test and every step forward had been attended with the elucidation of some fresh fact that had rendered it more probable. He had himself made histological investigations which were confirmatory of the views advanced. In the course of these investigations the thread form of the diphtheroid organism was discovered. Along with Dr. T. Shennan he had carried out a short series of experimental investigations. It was ascertained that the bacilli isolated from cases of general paralysis were non-virulent to guinea-pigs. Rats fed upon bread mixed with unsterilised broth cultures of the bacilli developed nervous symptoms and died in about ten days. Beyond question these animals presented evidence of the occurrence of many of the morbid processes that can be recognised in the nervous system of the general paralytic but they survived too short a time to make it possible for the complete histological picture to be developed. In four of the animals there was a widespread invasion of the tissues by the filamentous form of the organism. He also referred to an experimental observation made upon a goat by Dr. Bruce which had yielded results confirmatory of the view that this bacillus was capable of producing toxic effects resembling those to be observed in general paralysis. In May of last year he and Dr. McRae had reported that they had found that diphtheroid bacilli were constantly present, often in very great numbers, in the genital tract of both male and female general paralytics. They had also found similar organisms in the same situation in many cases that were not cases of general paralysis. In seven consecutive cases of general paralysis combined with tabes dorsalis they had found the urine to be loaded with diphtheroid bacilli. They had now obtained a growth of a diphtheroid bacillus from the brain post mortem in nine cases of general paralysis out of 23 in which cultures had been made from this organ. More recently they had examined the cerebro-spinal fluid removed by lumbar puncture from five cases of general paralysis. In the centrifuge deposit from three of these they had been able to recognise bacilli which had very little affinity for staining reagents but which nevertheless could not infrequently be seen to have the morphological characters of diphtheroid bacilli. They had also found that similar organisms could be observed in the fresh blood of general paralytics during congestive attacks. These and other similar observations had raised the question whether diphtheroid bacilli were not from time to time gaining access to the blood and being rapidly destroyed by phagocytic and lysogenic actions. Along with Dr. McRae he had investigated this point by experimental methods.

CENTRAL MIDWIVES BOARD.

A MEETING of this Board was held on Jan. 25th at 6, Suffolk-street, London, Dr. F. H. Champneys being in the chair.

A letter from the Clerk of the Privy Council was read transmitting a copy of a resolution passed by the guardians of the Lutterworth union suggesting the reduction from 20 to seven of the number of midwifery cases qualifying a candidate to enter for the Board's examinations. The answer of the Board was that it did not approve of the suggested reduction. A communication was received from Dr. A. J. Wallace asking for the opinion of the Board as to his right in certain circumstances to refuse to sign the certificate of instruction required under the regulations from candidates entering for the Board's examinations. After some discussion it was determined that it was outside the jurisdiction of the Board to decide whether anyone was bound to certify and an answer to that effect was directed to be sent to Dr. Wallace. A letter was then read from Dr. T. Eustace Hill, county medical officer of Durham, as to the extent of the exemption conferred by Rule E 21. This rule provides that nothing in Section E of the rules framed under the Midwives Act "shall apply to certified midwives exercising their calling in hospitals, workhouses, or Poor-law infirmaries under the supervision of a duly appointed medical officer." Section E contains the rules for regulating, supervising, and restricting within due limits the practice of midwives. The reply of the Board to Dr. Hill was to refer him to the Midwives Act and to the rules framed under it in accordance with that part of Section 3 of the Act dealing with the duties and powers of the Board.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Feb. 2nd, 1828.

MIDWIFERY seems to have made less progress in Ireland, than in any other part of the British empire. By this observation, we do not mean that there have not been at all times, in Dublin, and in the principal towns of the provinces, men competent to the application of obstetric science in the most efficient manner; we only mean to assert, that the number of practitioners, writers and teachers, has been less in proportion to the population, the wants of students, and the general mass of the profession of that country, than in either England or Scotland. Until very lately, there were many districts in the island, to the extent of twenty or thirty miles in circumference, in which no practitioner of midwifery resided; and where, in consequence of this deficiency, the most melancholy cases have occurred without the aid of art being attainable. Its medical literature cannot yet exhibit a single treatise in use among students, or even known as a work of reference in this branch of science; while Britain, both north and south, has been profuse in productions of this description. We need scarcely quote the names of Hunter, Denman, Blundell, Davis, Burns, and Hamilton, as a contrast to the Clarkes, Evorys, and Labatts of Dublin—men, who, though highly distinguished as accoucheurs, have left no record of their experience to profit posterity, or to exempt their country from the imputation of defective authorship. It may surprise our English and Scottish readers still more, when we assure them that, in a city so large as Dublin, and a school where there are so many prosecuting their studies, there are but two professors of midwifery, and these by no means comparatively well attended. In the University, or School of Physic, there is no professorship of this kind existing; the College of Surgeons very properly founded one, but owing to the neglect of the gentleman appointed, and still more to the want of a clinical establishment for the illustration of his precepts, his lectures, which, indeed, were but seldom delivered, were all but entirely neglected; the Lying-in Hospital, for causes which we shall immediately point out, is but ill-calculated to realise the objects of a school of midwifery; and to supply this defect of obstetrical instruction, there is not a single private teacher of the art, that we are aware of, in the Irish capital.[1]

MEDALS TO MERITORIOUS STUDENTS.

THE custom of distributing prizes or rewards to the most intelligent students, is, we are glad to see, now coming into general use. It is a practice which, in our estimation, is calculated to call forth a noble spirit of emulation and generous rivalry amongst the medical pupils, and, consequently, has our warmest approbation.

On Thursday se'nnight, Dr. Hopkins's prize, a splendid gold medal, was presented in the Webb-street Theatre, to Mr. ROBERT CORBIN, being the successful candidate for the best essay on the "Nature and Treatment of Protracted Labour."

On the following Saturday, the silver medal was given to Mr. W. BLOXAM for the second best essay on the same subject. The prizes were not adjudged until after the parties had undergone a rigorous public examination, in which they were called upon to defend every point of their theses, thus affording a further guarantee of their competency. The gold medal is of considerable value, and is a beautiful specimen of art: on one side is a device both classical and apposite,—Juno, the reputed patroness of child-birth, is seen with her peacocks watching over a female who is reclining upon a couch, having apparently been recently delivered. A female attendant is kneeling and holding in her arms a new-born infant. On the reverse of the medal is a Latin inscription, expressive of the object for which the medal was given. In confirmation of the beneficial results which we have said are likely to arise from this public mode of rewarding students, we may here mention the fact, that at St. Thomas's Hospital, where Mr. Green has offered a medal for the best set of clinical reports, a spirit of observation and inquiry has been manifested amongst many of the surgical students, which it is truly gratifying to witness. To adopt a homely phrase,—every man is put upon his mettle.

[1] Excerpt from a leading article.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8891 births and 4834 deaths were registered during the week ending Jan. 27th. The annual rate of mortality in these towns, which had been 18·3, 16·7, and 15·8 per 1000 in the three preceding weeks, rose again to 15·9 per 1000 last week. In London the death-rate was 15·3 per 1000, while it averaged 16·2 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 8·1 in Smethwick, 9·2 in West Ham, 10·0 in Northampton, 10·8 in Bournemouth, 11·4 in Hornsey and in Aston Manor, and 11·5 in King's Norton; the highest rates were 20·8 in Stockton-on-Tees, 21·1 in Liverpool, 21·5 in Stockport, 21·6 in Sunderland, 22·2 in Tynemouth, 23·8 in Great Yarmouth, and 24·6 in Preston. The 4834 deaths in these towns last week included 385 which were referred to the principal infectious diseases, against 464, 389, and 369 in the three preceding weeks; of these 385 deaths, 110 resulted from whooping-cough, 93 from measles, 73 from diphtheria, 46 from scarlet fever, 45 from diarrhœa, and 18 from "fever" (principally enteric), but not any from small-pox. In Brighton, Norwich, St. Helens, Huddersfield, Cardiff, and ten other smaller towns no deaths from any of the principal infectious diseases were registered last week, while they caused the highest death-rates in Wolverhampton, West Bromwich, Aston Manor, Leicester, Stockport, Burnley, Preston, Leeds, and West Hartlepool. The greatest proportional mortality from measles occurred in Wolverhampton, Aston Manor, Preston, and Leeds; from scarlet fever in West Hartlepool; from diphtheria in Hornsey and Merthyr Tydfil; from whooping-cough in Birmingham, Aston Manor, Leicester, Stockport, and Burnley; and from "fever" in West Bromwich. No death from small-pox was registered last week in any of the 76 towns, and no case of this disease was under treatment last week in the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on Saturday last, Jan. 27th, was 2983, against 3299, 3062, and 3066 on the three preceding Saturdays; 322 new cases were admitted during the week, against 291, 257, and 328 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 454, 370, and 299 in the three preceding weeks, further declined last week to 293 and were 120 below the average number in the corresponding periods of the four preceding years. The causes of 48, or 1·0 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Leicester, Nottingham, Salford, Leeds, Hull, Newcastle-on-Tyne, and 45 other smaller towns; while the largest proportions of uncertified deaths were registered in Portsmouth, King's Norton, Liverpool, St. Helen's, Warrington, Blackburn, Sunderland, South Shields, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 19·8, 17·8, and 18·2 per 1000 in the three preceding weeks, further rose to 19·6 per 1000 during the week ending Jan. 27th, and was 3·7 per 1000 in excess of the mean rate during the same period in the 76 large English towns. Among these Scotch towns the death-rates ranged from 14·6 in Aberdeen and 17·0 in Leith, to 21·1 in Perth and 29·7 in Dundee. The 670 deaths in these towns included 31 which were referred to measles, 13 to diarrhœa, 12 to diphtheria, seven to whooping-cough, four to "fever," and two to scarlet fever. In all, 69 deaths resulted from these principal infectious diseases last week, against 80, 61, and 53 in the three preceding weeks. These 69 deaths were equal to an annual rate of 2·0 per 1000, which was 0·7 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of measles, which had been 33, 28, and 24 in the three preceding weeks, rose again last week to 31, of which 25 occurred in Glasgow, three in Dundee, and two in Paisley. The deaths from diarrhœa, which had been 20, 16, and 19 in the three preceding weeks, further declined to 13 last week, and included seven in Glasgow and two in Dundee. The fatal cases of diphtheria, which

had been 13, eight, and five in the three preceding weeks, rose again last week to 12, of which eight were registered in Glasgow, two in Edinburgh, and two in Dundee. The deaths from whooping-cough, which had been 11, five, and two in the three preceding weeks, rose again to seven last week, and included four in Glasgow and two in Dundee. Of the four fatal cases of "fever" two were recorded in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 136, 126, and 114 in the three preceding weeks, further declined last week to 110, and were 53 below the number in the corresponding period of last year. The causes of 28, or more than 4 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 21·7, 21·7, and 20·1 per 1000 in the three preceding weeks, rose again to 21·2 per 1000 during the week ending Jan. 27th. During the past four weeks the death-rate has averaged 21·2 per 1000, the rates during the same period being 16 9 in London and 18 3 in Edinburgh. The 154 deaths of persons belonging to Dublin registered during the week under notice were eight in excess of the number in the preceding week and included five which were referred to the principal infectious diseases; of these, three resulted from diarrhœa, and one each from diphtheria and whooping-cough, but not any from small-pox, measles, or "fever." These five deaths were equal to an annual rate of 0 7 per 1000, the death-rates last week from the principal infectious diseases being 1·5 in London and 0·8 in Edinburgh. The fatal cases of diarrhœa, which had been one in each of the three preceding weeks, increased last week to three. The 154 deaths in Dublin last week included 23 of children under one year of age and 51 of persons aged 60 years and upwards; the deaths of infants showed a slight decline from the number recorded in the preceding week, while those of elderly persons showed a considerable excess. Eight inquest cases and eight deaths from violence were registered, and 70, or nearly half, of the deaths occurred in public institutions. The causes of six, or nearly 4 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet-Surgeon F. W. Stericker to the *Dryad*, Staff Surgeon J. K. Robinson to the *Niobe*. Surgeons: P. W. MacVean to the *Skirmisher* (lent); M. W. Hayden to the *Adventure* (lent); R. S. Osborne to the *President*, for three months' course of hospital study; A. la T. Darley to the *Ganges* for *Boscawen II.*; J. Stoddart to the *Pembroke*; L. C. Robinson to the *Foresight*; and G. O. M. Dickenson to the *Forward* (lent).

In accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Inspector-General of Hospitals and Fleets Richard William Coppinger has been placed on the Retired List at his own request (dated Jan. 25th, 1906).

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel J. M. F. Shine is appointed Officer Commanding Station Hospital, Deesa. Colonel C. A. Webb is appointed Administrative Medical Officer at Cork and Colonel Martin is appointed Principal Medical Officer, Welsh and Midland Command. Lieutenant-Colonel C. W. Thiele, Lieutenant-Colonel T. B. Winter, Captain P. G. Hyde, Lieutenant R. E. Humfrey, Lieutenant G. G. Tabuteau, Lieutenant W. Parsons, and Lieutenant C. W. O'Brien have left England for duty in India.

INDIAN MEDICAL SERVICE.

Surgeon-General Lionel D. Spencer, C.B., retired, to be Honorary Surgeon to the King, vice Surgeon-General J. M. Cunningham, C.S.I., deceased (dated Jan. 27th, 1906). Major W. Molesworth, who has been on the staff of Lord Ampthill in India, is selected to serve as medical officer to Sir Arthur Lawley on his taking up his duties as Governor of Madras.

The following gentlemen were successful at the examination for admission to the Indian Medical Service held on Jan. 23rd and four following days:—

Names.	Marks.	Names.	Marks.
H. W. Pierpoint	3761	R. H. Lee	3217
W. D. H. Stevenson	3548	G. E. Malcomson	3176
H. P. Cook	3510	F. P. Wernicke	3111
P. S. Mills	3501	P. Heffernan	3085
H. G. Gharpurey	3402	W. A. Mearns	3085
W. J. Fraser	3451	D. M. C. Church	3081
D. C. V. Fitz Gerald	3383	S. T. Crump	3074
C. R. O'Brien	3318	H. S. Hutchison	3065
R. S. Kennedy	3252	R. G. G. Croly	3034
C. A. Godson	3249	W. B. A. K. Cullen	2988
B. Higham	3248	J. McG. Skinner	2978
N. H. Hume	3222		

44 candidates (29 of whom had university degrees) competed for the 23 vacancies. 18 of the successful candidates possessed university degrees.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant Algernon E. L. Wear to be Surgeon-Captain (dated Jan. 16th, 1906).

DEATHS IN THE SERVICES.

Surgeon-General William Frederick de Fabeck, I.M.S., retired, on Jan. 18th, at his residence in London, in his seventy-second year. He entered the service as assistant surgeon in 1857, was promoted surgeon in 1869, surgeon-major in 1873, brigade surgeon in 1885, deputy surgeon-general in 1886, and retired with the rank of surgeon-general in May, 1890. He was present at the siege of Sevastopol in the Crimean war of 1854–55 and was at the assault on the Redan (medal with clasp). He also served in the Indian Mutiny, 1857–58 (medal).

ARMY MATTERS IN GENERAL.

No little consideration has been given of late to the discussion of army schemes in general and to the most suitable organisation in particular of our land forces for the purposes of home defence. All that the new Secretary of State for War has so far said and done has tended to justify the expectations which his appointment has raised. Everybody hopes that some really adequate and practicable measure may be the final outcome of all that has of late years been taking place at the War Office. Lord Roberts, who is evidently deeply impressed with the gravity of the situation and indefatigable in his efforts to make the nation realise it, has also been recently speaking at Liverpool in advocacy of his views; and a proposal to hold a schoolboys' rifle meeting at Bisley has met with a generous response from headmasters and is likely to be carried to a practical conclusion. So that it will not be from any lack of zeal and activity in various directions if we fail to reach some desired end. It is stated that among other changes in the near future there is to be an increase in the auxiliary branches of the Royal Army Medical Corps. What we desire to see, however, is that in connexion with any forthcoming big scheme of army organisation the subject of our sanitary and field medical arrangements for war should also be taken up and considered. Meanwhile, everyone feels that the new War Minister is quite right not to be hurried in his attempt to accomplish the extremely difficult task which he is undertaking. So far as his speeches at Edinburgh, his concessions to the Volunteers, and his assurance that the Government is not likely "to do anything that would tamper with the efficiency of the army or navy" are concerned, there cannot well be any ground for dissatisfaction. It is needless to say that the next Army Estimates will be unusually interesting and instructive.

LORD ROBERTS AND SIR FREDERICK TREVES AT MANCHESTER ON THE ADVANTAGES OF ARMY TRAINING.

Lord Roberts in prosecution of his patriotic undertaking in the matter of Imperial defence addressed a meeting at Manchester on Jan. 30th in which he dwelt upon the great national and other advantages to be derived from such a course of military training as he had been so strenuously advocating. We are very glad to notice that he was strongly supported on that occasion by Sir Frederick Treves on the grounds of national health. There is no need to call attention to the views published from time to time in these columns on the subject but we may add that, in our belief, Sir Frederick Treves was giving expression to the opinion generally held by members of the medical profession regarding the salutary effect which such a movement as that

advocated by Lord Roberts might have upon the physical condition of the people. Sir Frederick Treves, in the course of his remarks, said that the report of the Commission on Physical Degeneration was not very pleasant. It contained signs and hints of something that was coming, a weakness in our race, which if not paid heed to must lead to that degeneration which most of them feared. In his opinion the most striking feature of the age was the effect on the nervous system of the conditions of our modern life. The best remedy for this was perfect physical health, such as was gained by open-air exercise. That could be obtained by the system of military training suggested by Lord Roberts.

The *Broad Arrow* states that the administration of hospital services hitherto performed by the Royal Engineers has been handed over to the Director of Barrack Construction to whom, or to his representatives, should be addressed all communications respecting hospital buildings and their accessories which have until now been forwarded to the Royal Engineers.

Correspondence.

"Audi alteram partem."

ENTERIC FEVER IN THE ARMY.

To the Editors of THE LANCET.

SIRS,—Although most medical men who saw service at the front in South Africa recognise the impossibility of sterilising all water used either by boiling, filtering, or the addition of chemicals in tablet form (carefully elaborated and prescribed by armchair hygienic authorities on the prevention of enteric fever in a campaign), all will agree that, wherever possible, every opportunity should be taken to assist the men to obtain water which has been boiled. Whilst serving with General Plumer's force I had occasion to remark that the Australians and New Zealanders preferred at each and every halting place to drink tea. When a lime juice ration was served out very often they would not drink it. It was once or twice suggested that a double ration of tea would not only have given greater comfort to the Colonials but also have insured double the quantity of water being boiled. Thus they were always ready to fill their water bottles with tea before trekking. At the end of each day's trek it was a common sight to see them dismantle a farm house to obtain firewood to boil the "billy." Had full advantage been taken of this propensity to drink tea I was convinced the incidence of enteric fever would probably have been less. However, experience showed that this was not so. The worst attack of enteric fever that the New Zealanders and Queenslanders with Plumer had was after a rest of two weeks just outside of Wakkerstroom, where they availed themselves of the opportunity of getting copious supplies of tea from the field force canteen. However, as previous to the fight at Onverwacht, after which we went into Wakkerstroom to refit, we had never spent more than three or four days in a standing camp, we did not have the opportunity of exposing the force to the danger arising from a lengthy residence near its own or another column's excrement. Consequently (unless the epidemic of enteric fever was carried by "the filthy feet of faecal-feeding flies"), my idea that it was best for each section of four to boil their own water—and to encourage them to do so we should have given them more tea—was not put out of court by the Wakkerstroom experience.

Speaking of boiled water it is necessary to remember that unless aerated it is very insipid. Also my experience was that the men and even the medical officers when really suffering from thirst (similar to that so graphically described by the late George Steevens in "With Kitchener to Khartum") never hesitated to drink water if nothing else was procurable. Until that thirst was satisfied one never worried about the possible dangers of enteric fever and dysentery. The serving out of Berkefeld filters to each company was an experiment which, with our column, was not a success, owing probably to the fact that we had no special orderlies told off to look after the sanitation of the squadrons. In the later stages of the war, when often 100 troops riding light by night with stripped saddles and no wheeled transport were out on patrol, each man weighted with a rifle and three bandoliers, the only chance of getting a drink of boiled water was from a "billy" (in which each section of four generally made tea). For large standing camps and troops at the base it has long been known that the best method of treating water is to boil it.

For the benefit of those who seem to claim some originality for the idea I may mention that on the first page of Xenophon's Anabasis, Book II., reference is made to the using of the captured wagons, shields, &c., as firewood with which to boil the water for the 10,000. However, for mounted infantry and cavalry out on patrol, night marching, and doing work such as we did in South Africa, it was simply impossible to carry out sterilisation of the water on a large scale. It is worthy of note that in the irregular corps many of the men over thirty suffered less from enteric fever than the young regulars and the more youthful members of their own corps. Speaking for the New Zealanders and Queenslanders, the elder men were also able to withstand the wear and tear of the campaign better. Also their keenness for active service was not one whit less than that of the young bloods. From what I saw in South Africa and have since read I should think that inoculation against enteric fever, the taking of quinine if exposed to malaria or dengue fever (as we were in the Bushveldt and Pongola), the plenteous supply of soap, the frequent fresh issues of underclothing to prevent the miseries caused by body lice, together with instruction by the medical officers on the transports as to simple lines of health, the provision of special sanitary orderlies for each company, an expert sanitary officer attached to the staff to disinfect the chief staff officer from selecting an old camping ground, also to point out the advantage of a frequent change of camp, and the necessity of filling in latrines, would go far to reduce the incidence of enteric fever, dysentery, and other preventable diseases.

I am, Sirs, yours faithfully,

J. S. PURDY, M.D., C.M. Aberd., D.P.H. Cantab, F.R.G.S.,
late Surgeon-Captain New Zealand Militia.

Port Said, Jan. 10th, 1906.

THE PREVALENCE OF CONTAGIOUS DISEASE: A SUGGESTED INQUIRY.

To the Editors of THE LANCET.

SIRS,—During the past 20 years I have lived more abroad than in England and have noticed that amongst Americans, Colonials, Germans, and Japanese there is a curious unanimity of opinion that the modern British islander is degenerating. Some well-educated Germans have told me that one of the main causes of the decay of the Spaniards and the Portuguese was the prevalence of "specific" disease and intimated that the same cause is deteriorating the British race. It is all very well to laugh at these thoughtful foreigners and to ascribe their views to envy and prejudice but every year our population becomes more and more urban and a larger proportion thereby come in contact with contagious disease. Is it therefore possible that the British are commencing to show the effects of the spirochæta pallida? Permit me to suggest that the medical profession should endeavour to get a return for a period of three months of all cases treated at 12 of the largest hospitals in the kingdom, the direct or indirect cause of which is considered to be contagious disease. A return of this character would not cost much money and could commence on any date convenient to the hospitals; the result might be of national importance and could not fail to be of interest to the medical profession.—I am, Sirs, yours faithfully,

H. N. ROBSON, M.R.C.S. Eng., L.R.C.P. Lond.

Junior Constitutional Club, Piccadilly, W., Jan. 25th, 1906.

THE HEALTH OF MADEIRA.

To the Editors of THE LANCET.

SIRS,—As reports have been disseminated to the effect that either bubonic plague or some other infectious disease is prevalent in Madeira it is advisable that the medical profession should be informed that these rumours are absolutely without foundation. Some six weeks ago several so-called suspicious cases were removed to the "lazareto," a building used for isolating cases liable to spread infection, the persons who had been in contact with these patients being also removed and isolated in a separate part of the same building. Shortly afterwards it began to be said (rightly or wrongly) that these isolated individuals were not receiving that care

and attention which were necessary; the "lazareto" was in consequence stormed by the populace which had always doubted the genuineness of the existence of infectious disease. The inmates were found to be healthy with the exception of five patients who were suffering from more or less trivial ailments, and since this occurrence there have been no further cases of so-called plague. It turns out that the whole affair has been a scare purposely got up by certain interested individuals in Madeira from political motives which need not be considered further.

I write this with the full concurrence of the senior English physician in the island, Dr. M. C. Grabham, and we both wish not only to reassure the friends of visitors at present staying here but to make public the fact that intending visitors need have no fear of running any danger on their arrival.—I am, Sirs, yours faithfully,

J. GEDDES SCOTT, M.R.C.S. Eng., L.R.C.P. Lond.

Funchal, Madeira, Jan. 20th, 1906.

THE DIRECT REPRESENTATION OF SCOTLAND ON THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—Rumour has been asserting that I do not intend to be a candidate for the suffrages of Scottish practitioners at the next election in October of this year for the post of their Direct Representative. Will you kindly grant me the kind privilege of saying publicly that statements to that effect are untrue and misleading?—I am, Sirs, yours faithfully,

Dingwall, N.B., Jan. 24th, 1906. WILLIAM BRUCE.

X RAY DOSAGE.

To the Editors of THE LANCET.

SIRS,—In the interesting article on two cases of leukæmia treated by x rays in THE LANCET of Jan. 27th, p. 211, Dr. W. Ironside Bruce regrets the indefinite manner in which the dosage of the rays is stated. I think, however, that more essential details are there noted than seems customary in the reports of x ray treatment.

For example, in Mr. A. Marmaduke Sheild's case of mammary cancer, recorded in THE LANCET of Nov. 18th, 1905, p. 1464, Dr. H. Lewis Jones in reporting the x ray treatment only tells us that the applications lasted 12 minutes, that the tubes were "soft" or "medium," and that the secondary current was 0·5 to 0·8 milliampère. No mention is made of the strength of the primary current nor even of the distance of the tube from the diseased tissue. When it is considered that a tube at eight inches from the skin gives it more than twice the irradiation it would do at one foot, it is evident that the exact distance is an important datum. The capacity of the coil, the number of watts in its primary, the rate of interruptions, the particular "break" used, the distance of the tube and its equivalent spark gap, are all such important factors in the production and application of x rays that it seems a pity to omit any of them in reporting the treatment of a case.

As to the value of recording the milliampèrage of the tube circuit with the instruments now made for that purpose, opinions seem to differ. From my own observation of the behaviour of an average milliampèremeter under varying conditions, I suspect they do little more than indicate their own eccentricities, and feel convinced that a far more accurate estimate of what the tube is yielding can be made from a consideration of the energy of the primary current in conjunction with the state of the tube and the frequency and efficiency of the interruptions.

I am, Sirs, yours faithfully,

Ballachulish, Jan. 29th, 1906. W. D. ANDERSON.

PHYSIOLOGICAL TESTS FOR PHARMACEUTICAL PREPARATIONS.

To the Editors of THE LANCET.

SIRS,—May I trespass briefly on your space once more? My letter of Jan. 20th has served its main purpose by eliciting the information I desired, but it appears in part to have conveyed a not wholly correct impression of my attitude towards this question. I do not think that I under-rate the importance of such pharmacological researches. My contention is simply this—that before accepted standards are officially remodelled we should have evidence as complete and irrefragable as possible that the older methods rightly carried out cannot be trusted to give a reasonable uniformity and I think that the evidence adduced by any investigator loses in weight if he cannot state that the preparation examined has been made under his own supervision from crude drugs which he personally admits to be the best obtainable, and it is because I hold this opinion that I attach great value to the definite statement in Dr. W. E. Dixon's courteous letter that he found a similar variation in preparations of ergot made by himself and Dr. Haynes. Now, if their experience is confirmed by other pharmacologists of equal standing, and if the same principle of procedure—viz., personal identification throughout—is applied to the other drugs in question with a like result, we shall have before us a clearer indication than we yet possess that with our present incomplete knowledge of the chemistry of such drugs further *official* tests are desirable; and it is quite possible that bio-chemical standardisation may prove to be the best means of securing that approach to constancy in therapeutical activity which is so important.

I am, Sirs, yours faithfully,

WILLIAM MARTIN, M.D. Durh.

Newcastle-upon-Tyne, Jan. 29th, 1906.

THE DOCTOR IN THE DOCK.

To the Editors of THE LANCET.

SIRS,—Under this title a correspondent recently called attention in your columns to the careless manner in which all sorts of miscreants are received by a badly edited press into the ranks of the medical profession. That colossal blackguard Bridgwater, and more recently a bogus Scotch "baron," were both called medical men in many of the voluminous notices of their exploits. A very good example of this is now occurring in the case of a person alleging himself to be a medical practitioner who was charged with a petty theft from a chemist's shop at Charing Cross. This man was described in newspaper after newspaper as a medical practitioner, but the magistrate very properly refused the application for bail made on his behalf by his solicitor when he heard that the accused was not a registered medical man. I am not prejudging this case. The accused is said to possess an American degree, a claim which, though it is made by every impudent quack, may in this case be perfectly sound; but until the man's medical status is proved it is obviously unfair to the medical profession to allude to him as a medical man. The *Times* says of this person that he "described himself as a medical practitioner," and such is evidently the fair method of reporting.

I suggest that the mental confusion of the average journalist upon what constitutes a medical practitioner is out of date. Not long ago every outburst of rowdyism in a restaurant or a music-hall was always attributed to medical students and I do not suppose that the various clerks and commercial employés, with possibly a leaven of legal and theological students, who are responsible for these little outbursts, have, or have ever had, the least intention to father their offences upon other people. It was a badly edited press which, with a mind reminiscent of Bob Sawyer and Joe Muff, felt constrained to attribute to the medical student all mischief done by any group of young men which included students of every sort. But the laborious life of the present medical student is becoming known and taproom *émeutes* are no longer attributed to him as a matter of course. The stage still suffers to some extent at the hands of the press, inebriated ladies of the pavement being not infrequently alluded to in the course of police reports as actresses; but here, again, the journalist is becoming better informed and the ordinary female "drunk" is now more often described as "alleging herself to be an actress." As justice is being done to our medical students and to our comediennes and tragediennes, is it not time that the press should awake to what gives a man a right to be described as a medical practitioner? A medical practitioner is a registered medical man in practice—not an advertising quack, not a transatlantic adventurer, nor a monger of abortion pills, and not as a rule either a common thief, common rogue, or common vagabond.

I am, Sirs, yours faithfully,

Jan. 29th, 1906. T. DELORME.

THE NATURE OF CANCER FROM THE CLINICAL ASPECT.

To the Editors of THE LANCET.

SIRS,—In his recent Bradshaw lecture Mr. H. T. Butlin,[1] putting aside for the moment the problem of the exact mode of formation of a cancer, propounded the question, "How does a cancer act when it has once appeared in the body?" and he answered without hesitation, "It acts as a parasite," and he gives his reasons for his opinion. Whencesoever the cells have come that we see in a malignant growth, however much they may resemble the healthy cells, the cancer itself behaves as a parasite. Histologically no differences, or only very slight variations from the normal, can be seen between the unaffected healthy cells of the parts and the cells of the new growth; they may take the same stains, they may yield the same chemical products, but physiologically—that is, in the mode of action—they are wide as the poles asunder. The normal healthy cell of the part is a unit of the whole and in sickness or in health behaves as such. It is a citizen of a State and it does its part in carrying on the work of the State; its actions are dictated by a sense of the well-being of the whole and its own interests are subordinate to those of the community. As the whole body flourishes it flourishes also; should sickness and starvation overtake the body the normal cell suffers with it, but when returning health again blesses the whole body, the individual normal cell shows by its participation that it, too, is a lawful sharer in the joys and prosperity of the commonwealth. Finally, the term of life of the cell being ended it goes its way, leaving behind it nothing that will prove hurtful to the State. The ways of the malignant cell are far otherwise. Its ways are the ways of a parasite, and of a parasite which cares nothing for the life of its host. Its aim is to grow as rapidly as possible, with the least exertion, to batten on the body that contains it, and to disregard utterly all considerations as to the life of its entertainer, so that it does not even refrain from doing to death the being who has nourished it.

If this be a true description of the habits of a parasite, surely a cancer has a rightful claim to this title. Come its cells whence they may, whether as an invasion from outside or by a transformation or a degeneration of the living tissues of the body, it cannot be denied that a malignant growth is a true parasite. What matters to it the well-being of the body that contains it? The cancer grows apace. What matters to it that its host lights on days of poverty? Its growth does not slacken. The very prosperity of the cancer depends on what it steals from the body, and the failing health of its host seems but to serve to stimulate the demands and the growth of the cancer. Not until the long-suffering body sickens and dies does the guest relax its demands on its entertainer. It has done to death its benefactor and it must suffer death with it. Yet, even when death claims the body the cancer need not die. Experiments have shown that a malignant growth can by transplantation be transmitted from one mouse to another until it has passed through the bodies of 30 mice, and yet at the end of this long series of transmigrations it has maintained the same vitality and the same characters which it exhibited in the mouse in which it first was seen. That mouse has long since died but the same malignant growth still lives on. It is not, however, merely in its place of origin that a cancer acts like a parasite. Not only does it spread locally with a complete disregard for the tissues in which it lies, not only does it push aside, press upon, and destroy important structures of its host, careless of the harm it does but, like many parasites, it endeavours to disseminate itself throughout the body which contains it. Its cells are scattered broadcast in the lymph and the blood stream, and wherever one of the cells may lodge there arises anew the structure of the cancer with cells of the same aspect and nature as in the spot where it was first seen. This new deposit of the cancer proceeds exactly like its progenitor; it grows with at least the same rapidity; it invades the surrounding tissues and flourishes at the expense of the host. Each new secondary growth of cancer becomes a centre whence fresh germs of disease are scattered abroad and only the duration of the life of the patient limits the number of the foci of malignant disease which the body may contain.

From its clinical aspect it cannot be denied that carcinoma is a parasitic disease. Mr. Butlin could not doubt that the cells of the new growth were the descendants of the cells of the tissue where the growth first showed itself. He mentioned, merely to condemn the suggestion, that the cell of the new growth is the result of the assimilation of an extraneous cell to the cell of the part; the resemblance is too close for the possibility of this to be admitted, for we should have to acknowledge that the intrusive cell should come to resemble exactly the epithelial cell of the part where it chances to lodge, that amongst squamous cells it should be squamous, that amongst columnar cells it should become columnar, and that spheroidal cells should influence it to become spheroidal too. There only remains the possibility that the cells of the cancer are derived from the cells of the part. What change has taken place in them to induce them to adopt the parasitic attitude we cannot say. One suggestion not wanting in support is that the cell has undergone degeneration and in descending from its former high estate it has reverted to an ancestral form with greatly increased power of multiplication, but this reversion, this atavism, has unfitted it for taking part in the life of the body to which it originally belonged. It has entirely lost touch with its former comrades and it has become a stranger, and because a stranger a parasite, whose life henceforth will run on different lines; it will be dependent as of yore upon its host for sustenance but it will acknowledge no allegiance in return. This theory of reversion is pretty but it is unfortunate that it has at present but little basis of fact. The practical application for the surgeon of the recognition of the truth that, whatever its real origin, a carcinoma, once it has appeared, is a parasitic disease, jumps to the eyes. He will, as he has done for years, strive to remove utterly every cell of the new growth, and inasmuch as the outer limits of the growth are ill defined he will cut widely so as to insure that nothing has been left. The importance of an early operation will not need any insistence for him, he is at present fully alive to the value of removal of the primary growth while yet no truant cells have escaped to distant parts. There is, however, one lesson to be learned from a complete recognition of the parasitic nature of a malignant growth, and that is the danger of the infection during the operation of the tissues left behind. Every cell of the new growth can act as a spore of the disease. It will suffice to start a recurrence of the growth should it be left in the wound. If the scalpel in removing the growth should at any time cut through a portion of the tumour it may, and even probably will, become infected with some cancer cells, and if the same scalpel is used without sterilisation for the removal of the growth and cuts through healthy tissues these are likely to become infected with the cancer cells and recurrence in the wound or scar will occur. In this way, doubtless, are to be explained many of the recurrences *in situ* which occur after the removal of cancerous growths. It is to be noted that this explanation of the return of malignant growths is quite independent of any theory that carcinoma is due to a germ. Formerly it was not rare to see a surgeon incise a tumour of the breast to make certain of its nature and then, with the very same scalpel, he would proceed to excise it. The utmost care should be taken that the scalpel used for incising a new growth is not employed for excising it. By drawing attention to the parasitic nature of carcinoma when viewed from a clinical aspect Mr. Butlin has done a distinct service to surgery. What the outcome may be of the investigations into the true etiology of cancer none can say but for the surgeon clinically it will ever be a parasitic disease.

I am, Sirs, yours faithfully,

Jan. 27th, 1906. CHIRURGICUS.

[1] THE LANCET, Dec. 16th, 1905, p. 1747.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Bequests to Birmingham Hospitals.

A SUM of £20,000 bequeathed by the late Mrs. Unite to the Birmingham and Midland Hospital for Women has been the subject of litigation in the Chancery Divison of the High Court of Justice. Under the will of the testatrix the sum was given towards the rebuilding and equipment of the hospital, the money to be applied to the satisfaction of, and under the direction of, the executors. The counsel for the next-of-kin contended that the enlargement of the hospital was entirely completed on the death of the testatrix and that

the gift of £20,000 was not necessary for the scheme to be carried out. Further, the executors had exercised no controlling influence and the counsel contended that no part of the bequest could be applied in payment of what had been already done. The counsel for the hospital stated that the sum of £12,885 was required for the purpose of completing the hospital at the date of the will. Mr. Justice Kekewich, in summing up, said that he could not construe the wording of the will to mean that the money was a free gift to be applied in any way the hospital authorities thought fit. Neither could he decide in the absence of the Attorney-General that so far as the specified object failed the gift might be treated as charitable. Further, he could not see that any time limit was fixed. He considered that the executors might liberally construe the words "rebuilding" and "equipment." When the hospital was both fully rebuilt and completely equipped the executors might find the full amount at their disposal was reasonably required for the purposes to which they might properly apply it and, on the other hand, it might be that they had a substantial balance. On their report he should be prepared to give directions but in the meantime the case was adjourned.—Under the will of Mr. William Robert Lane of Richmond Surrey, formerly of Birmingham, the Queen's Hospital, the General Hospital, and the Children's Hospital each receive £1000.

Local Charities.

The annual meeting of subscribers to the Midland Counties Home for Incurables was held under the presidency of the Marquis of Hertford, vice the late Lord Leigh. The committee reported that the ordinary revenue of the home had enabled it to maintain a higher average number of inmates than had ever been reached before and to create an additional free bed. The commencement of the new east wing was referred to with satisfaction; it will accommodate 15 additional patients and will entail an increased expense of £450 a year.—The annual report of the Worcester Ophthalmic Hospital recorded an increase of patients and of annual subscriptions. The expenditure had decreased.—The annual report of the Sands Cox Provident Dispensary showed an increase of members. It appears from the report and from the speeches made at the meeting that members made an average contribution of 3*s.* a year in return for which they could be attended by their own local medical man and by suitable trained nurses when required. The medical men in attendance received 5*s.* per member per year so that the dispensary partakes in a measure of the nature of a charity.

Local Drainage and Sewerage Scheme.

The scheme for constructing storm-water filters and for improving the present filters at Saltley, to which I referred in a former letter, has been considered and approved by the drainage board. The storm-water filters constructed on the principle of bacteria beds will be built of medium to be obtained from the gas and destructor works—viz., clinker and ashes. The efficiency of the present filter-beds will be increased by making the depth of the medium five feet and by providing silt tanks for freeing the sewage of suspended matter before distributing it on the beds. The cost will be spread over a series of years and the board hopes that the annual precepts need not be increased.

Falling Birth-rate in Birmingham.

The city medical officer of health in his quarterly report states that the number of births registered during the last three months of 1905 was the lowest on record for that period—viz., 3648 (birth-rate 26·9 per 1000), as compared with 4017 and 4078 in the fourth quarters of the two preceding years. The general birth rate in Birmingham has been declining for a considerable number of years. The infant mortality rate is low; in only one ward did it exceed 200 per 1000 births, whereas in the fourth quarter of the preceding year it exceeded 200 in eight of the wards. The general mortality rate was also low, 16·3 per 1000; the highest mortality rate in any ward was 22 per 1000. The mortality rate due to the seven principal zymotic diseases was equal to 1·7 per 1000, as compared with 1·4 per 1000 in the preceding fourth quarter.

Care of Mentally Defective Children

The sites and buildings subcommittee of the Birmingham education committee has decided to adapt the old industrial school in Gem-street for the purposes of a special school for mentally defective children. At the last meeting of the Birmingham education committee Mrs. Hume Pinsent, the chairman of the special schools subcommittee, was asked how parents received the decision that their children were mentally deficient and in the event of a parent not being satisfied whether there was, as it were, any court of appeal? In reply, Mrs. Pinsent stated that to the admission examination the parents were summoned, as well as the teacher of the child, His Majesty's inspector, the chairman of the education committee, and the medical man who was examining. In 99 cases out of 100 no objection whatever was made by the parents. They frequently had parents bringing children and asking that they should be admitted to the schools. It was further stated that the subcommittee was waiting for the report of the Royal Commission which was now sitting before bringing forward any scheme for permanent boarding schools for these children.

Jan. 30th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Preston, a "Whited Sepulchre."

SUCH is the title given by one of the members of the Preston town council at its meeting on Jan 25th, when he said "it seemed as if they had not cast off the stigma of [being] the whited sepulchre of the north." For the last two months the death-rate has exceeded the birth-rate, the town having passed through an epidemic of measles. Severe strictures were passed on the old women and "ignorant young mothers" by Dr. W. J. McDade as to their treatment of the children. Dr. Brown, the chairman of the health committee, attributed the high death-rate to the fact that Preston people "had been having their little fling" since Christmas began and "the disregard of health laws during the Christmas holidays is terrible." He said also that the people neglect "all the ordinary precautions of life, and we are now reaping the result in a mortality that is terrible to look on." The assemblies of children during the Christmas holidays helped to spread measles and "he attributed last week's death-rate of children of 433 per 1000 births to election madness," parents keeping their children up when they ought to have been in bed four or five hours. He thought it a disgrace that they had not "more regard to their children's lives." This shows a discreditable, and it may be said an inhuman, state of things in Preston, which town used to be known as "proud Preston"; scarcely proud just now, one would think, of the children's death-rate of 433 per 1000. The cotton trade, the chief provider of the industry of Lancashire, is said to be in a state of almost unexampled prosperity, of which it is having its share. It is a well-known fact, but not one to the credit of our working population, that in times of high wages the infant mortality is high, while in the hard times of the cotton famine during the American civil war the infant death-rate was very low. In Preston Dr. McDade attributed some part of the child slaughter to the ignorance of the young mothers; yet Preston has had the advantage, if it may be so called, of being taught in our elementary schools, but not, unfortunately, those things which go to form character and fit the young women to enter on family life prepared for their responsibilities. Dr. Brown spoke severely, but he is not one to use strong words without thought, and the mayor hoped that his remarks would have some effect. Perhaps after the excitement of the election is over some needed improvements in the elementary educational curriculum may be looked for.

Small-pox.

Small-pox still continues to be a trouble in this part of the world. Five fresh cases were reported some days ago at Oldham. The Manchester city council has agreed with the Levenshulme urban district authority to allow cases of small-pox from the district to be received at the Manchester corporation hospital. The town of Heywood has become notorious as the place where those who wish to gamble with the dangers to life and health and of disfigurement that small-pox so often leaves as a memento of its visitation are welcomed and sent forth rejoicing in the possession of a vaccination exemption certificate. It was not, therefore, very surprising to hear it called "the Mecca of the anti-vaccinators" by someone who applied the other day for such a certificate at the Bolton borough police court.

Appointment.

Dr. Duncan Forbes, who has been for some time assisting

Dr. J. Niven, the medical officer of health of Manchester, has been appointed medical officer of health, medical superintendent at the hospital for infectious diseases, and medical officer to the education authority of Cambridge. The work involved in carrying out the duties of these various offices is to be rewarded by the munificent salary of £450 per annum.

The Ladies' Health Society.

The annual meeting of the Ladies' Health Society of Manchester and Salford was held on Jan. 23rd. Its aims and methods of working have been noticed from time to time but it may perhaps be excusable on account of the importance of the matter if one of its special objects is again alluded to—viz., "to remove as far as they can the deplorable ignorance of women of the poorer classes of the care and management of their babies," by visiting the women in their homes and by the opportunities of intercourse with them furnished by mothers' meetings. The report lays claim, and the claim is not disputed, that a good deal has been done towards the "prevention of the bow-legged, stunted type with defective sight, which was formerly much more commonly seen in our streets than now." It would be difficult perhaps to establish this proposition by statistics, but there is no doubt that the leaven of instruction is working to the great benefit of the infants of to-day. The Salford town council has asked the society to open three more districts and its subscription is raised so as to cover the salaries of the three new visitors. The ladies who supervise them of course give their work and are rewarded by the consciousness of having tried to do some good to their poorer sisters.

A Peculiar Suicide.

An inquest was held on Jan. 22nd in the case of a young married woman, a patient in the Manchester Infirmary. She was admitted early in the month and had to undergo an operation, which was successful, but since then she had been "miserable and depressed." One night she was left alone for a few minutes and forced some flannel down her throat and then a bar of soap, which she pushed into her throat by means of a medicine-bottle. It was stated also that she had injured her throat with a tortoise-shell comb. The jury found that she was sane at the time and the verdict was the somewhat rare one in these days of *felo de se*. She showed great determination in her efforts at self-murder.

Jan. 30th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The Fees of Colliery Surgeons in Northumberland.

To most of your readers it will be known that by a resolution of the Northumberland Miners' Union it was decided to put the proposed reduction in fees (from 9*d.* to 6*d.* per fortnight) into effect after Jan. 1st, 1906. Pending the consummation of this resolution active measures were taken by those medical men interested in the question to oppose any such reduction. The local division of the British Medical Association issued a series of instructions for the guidance of colliery surgeons who should be threatened with a reduction; in several instances practitioners not members of the Association were visited and encouraged to work loyally with their brethren and a fund was established to grant financial aid to any who should prove to be in monetary difficulties through the expected struggle. And now we are well into the New Year the whole agitation among the men appears to be "fizzling out," for fortunately their good sense has prevailed over the ruling of their union. In several districts the men have unanimously decided to continue to pay the old rate (9*d.*) to their medical men; in other districts the decision has been in favour of the higher rate even though the men were not entirely agreed, and in only very few cases have the men decided upon the lower rate (6*d.*) and to advertise for practitioners willing to do the work at their terms. For instance, the men of the Walbottle, North Walbottle, and Blucher pits decided in favour of a reduction to 6*d.* and also to advertise for a medical man. In other districts the matter is still unsettled but where the medical men have an opportunity of meeting the miners an amicable arrangement is usually arrived at. It is a matter for congratulation that the favourable turn of affairs is as much due to the friendly action of the miners as the determination of the medical men. As a rule, the decisions of the council of the Miners' Union are strictly adhered to by the men but in the present instance it has been very commonly overruled by the local lodges, the men being indignant that their relations with the medical men have been interfered with. A favourable termination to the dispute is most important, for should the agitation for the reduction eventually prove successful in Northumberland, the adjoining county of Durham with its much larger mining population would almost certainly join the movement.

The New Infirmary, Newcastle-upon-Tyne.

The casual observer might very easily conclude that the building operations on the town moor had not made any progress during the past few months. Such a surmise would not be so much out, for the great progress recently made has mostly been inside work. Some of the wards are already nearly finished and at least the general plan can be seen. Each ward is provided with baths, lavatories, and water-closets arranged at the end furthest from the main corridor; at the other end a ward kitchen, sisters' room, patients' day room, single-bed wards, larder, secretion rooms, store rooms for patients' clothes, &c., are situated. The children's ward is to be decorated with pictures in tiles representing scenes from well-known nursery tales; some of these are now in position and look exceedingly bright and artistic. The casualty department is in the main block near the patients' entrance. In addition to dressing room and surgery there are a bath room, an observation ward with three beds and a room for patients' friends. Provision has been made for five theatres, four in the main building and one in the out-patient block. The latter is rapidly approaching completion; it consists of a large central hall with numbers of consulting rooms arranged around. Some of these rooms are rather small and there is no arrangement to prevent overlapping in some of the special departments. The dispensary and the numerous offices—drug stores, dressing stores, preparation rooms, &c.—which appertain thereto are located in this block and the necessity for the size of this department is only properly understood by a consideration of the scale of the whole building. Ample accommodation has been made for students for their comfort and for teaching. Under the main theatre there is a large lecture room with smaller ones at either side, while a students' common room, dining room, bicycle house, and lavatory have been provided. Except for light, the library is a spacious and handsome room and is as artistically decorated as the board room in which the valuable pictures belonging to the governors are to be hung. The kitchen is on the roof and its situation, size, and fittings make it appear one of the most salubrious parts of the building. All the work seems to be provided for by machinery, for there are electric mincers, steam cookers, stew-pots, &c. In the servants' hall provision is made for 70 persons, as it is intended to replace the present ward women who live outside by permanent indoor servants. In another part of the building quarters are provided for ten porters. The nurses' dining hall is in the main administration block, as it is intended that no meals shall be provided in the nurses' home; there is accommodation for about 60 nurses. The matron and house governor are to be lodged somewhere in the region of the usual residents' quarters and no part of the hospital is in more pleasant contrast to the inadequate arrangements in the old place. Already the nurses' home is most thoroughly appreciated and on Jan. 24th the first nurses' dance that has taken place for some years was held there. When the new infirmary will be opened is still unsettled; June has been mentioned, but those who are best informed think the building cannot possibly be ready for the reception of patients before October of this year.

Hospital Abuse.

At the Royal Infirmary, Newcastle-upon-Tyne, an inquiry has been made into the circumstances of all the patients in the house on a certain day—241 in number. Particulars were tabulated under the following heads: name; address; married or single; number in family; occupation of self or husband; employers; usual income; sick benefit; present income at home; remarks. In no case was there any example of really flagrant abuse and in the great number of instances the patients were entitled by circumstances as well as by necessity to the benefits of the institution. In view of the increased expenditure at the new

infirmary the whole question of increasing the subscriptions has been intrusted to a committee whose efforts have already met with a considerable measure of success.

Jan. 30th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Opening of the Newport (Mon.) Borough Asylum.

THE joint lunatic asylum at Abergavenny was established in the year 1852 for the treatment of patients from the counties of Monmouth, Hereford, Brecon, Radnor, and the city of Hereford. In 1870 patients from the city and county of Hereford were removed to the asylum at Burghill, in Herefordshire, and in 1903 the Breconshire and Radnorshire patients were removed to the new asylum at Talgarth. The latest, and what will probably be the final, depletion has now been accomplished by the removal of the Newport borough patients to the new asylum which has been erected at Caerleon. Provision was made in 1852 for 210 patients at the Abergavenny institution, but subsequent enlargements in 1861, 1878, 1882, and 1892 increased the accommodation to over 1100 beds. In 1897 the county council of Monmouth, under the provisions of the Lunacy Acts, required the corporation of the borough of Newport to provide its own asylum accommodation and to remove its patients from Abergavenny, and in 1899 the corporation undertook to remove its patients optionally at the end of 1903 and absolutely at the end of 1906. This agreement will be carried out well within the stipulated time, for on Jan. 25th the mayor of Newport formally opened the Caerleon institution. The site is 126 acres in extent and commands extensive views of the surrounding country. There is at present accommodation for 368 patients, equally divided between the two sexes, but the administrative offices are designed for 500 patients. The main buildings include a central administrative block with three two-storey blocks on either side, all being connected by covered corridors. The blocks nearest to the administrative offices are for 60 sick and infirm cases in two wards; the next block is for 35 epileptics on the ground floor, and for 35 quiet chronic cases on the upper floor; while in the furthest blocks there is accommodation on each floor for 27 recent and acute cases. Classification is much facilitated by the adoption of these small wards and by each ward having its sleeping accommodation adapted to the class of patient resident in that ward, both as to the position of the dormitories and of the single rooms. The general planning has been very thoughtfully carried out, especially as regards the kitchens, central dining hall, stores, and laundry. The same care has not, however, been displayed in certain minor details and the number of exposed beams, architraves, and dust ledges generally are more than one would expect to find in a present-day institution intended for the reception of the sick. The buildings are lighted by electricity and heated by hot water on the "cable" system. The water-supply is from the corporation mains, storage tanks being provided to hold a day's supply. The total cost of the institution will approximate £400 per bed, a sum capable of reduction if the additional blocks are erected. The furnishing has been carried out at the low figure of £25 per bed. Dr. W. F. Nelis, who was assistant medical officer for 25 years at the Abergavenny Asylum, was some months ago appointed medical superintendent and he has been actively engaged in preparing the institution for the reception of the patients, many of whom are now being removed from Abergavenny.

Cardiff College.

In an address which Sir Arthur Rücker, F.R.S., recently delivered before the Association of Past Students of the University College of South Wales and Monmouthshire he urged that time and opportunity for research should be given to professors in every university and deprecated the idea of an artificial cleavage into the unity of knowledge by devoting too much attention to pure literature and science on the one hand and to technology on the other. In connexion with the provision of university teaching he expressed the opinion that the site, buildings, and initial equipment of university colleges must come from sources other than the fees of the students and stated that in Cardiff the whole of the capital and three-fourths of the general income were derived from outside sources and that the students paid only about one-fourth of the cost of their education.

The Medical Officer to the Cardiff Education Committee.

The medical officer of health of Cardiff (Dr. E. Walford) was last year appointed medical officer to the education committee and it has been recently decided to pay him a salary of £1 per annum for each of the 37 schools in the city. In reply to an inquiry the Local Government Board has stated that a medical officer of health is entitled to extra remuneration for acting as medical officer to an education committee.

University of Wales.

At a meeting of the Court of the University of Wales held on Jan. 25th the Senior Deputy-Chancellor (Sir Isambard Owen) said that he hoped in the present year they would get through their supplemental charter and also be allowed to establish a faculty of medicine. The reputation of the University, he said, would depend to a large extent upon the faculty of medicine. It has been decided to ask the President of the General Medical Council and the President of the Royal College of Physicians of London to assist in the drafting of the Bill which will have to be presented to Parliament enabling the University to establish a faculty of medicine.

South Wales Water Board.

The Glamorganshire county council is pressing on the preparations for presenting in the next session of Parliament a Bill for the formation of a water board for South Wales. The Breconshire county council has decided to oppose the measure on the ground that it will interfere with its rights, some of which it is thought have not in the past been sufficiently safeguarded.

West Wales Sanatorium.

It was confidently expected that each of the three county councils of Pembrokeshire, Cardiganshire, and Carmarthenshire would vote a sum of at least £500 out of county funds towards the erection of the West Wales Sanatorium. The Carmarthenshire council had, indeed, already decided to give this sum, so that it was a distinct disappointment to those interested in the institution to learn that the Local Government Board has expressed the opinion that the council cannot legally hand over the money. The Board gave a contrary opinion with regard to district councils, several of which have paid capital sums towards the erection of sanatoriums.

Assault on a Medical Cyclist.

At the Bristol county-court, before his honour Judge Austin, Mr. F. C. Whitmore, M.R.C.S. Eng., brought an action against a cattle dealer for personal injuries sustained. Evidence showed that the defendant, who was intoxicated, was driving a vehicle on the wrong side of the road and knocked Mr. Whitmore off his bicycle, breaking the machine. When he was remonstrated with he struck the plaintiff across the neck with his whip. Mr. Whitmore was injured in the abdomen and unable to follow his professional duties for a week. The defendant was ordered to pay ten guineas and costs.

Winsley Sanatorium.

The Winsley Sanatorium has been open for the reception of patients for 12 months, during which time 143 patients have been admitted, the weekly cost of each being about 25*s*.

Jan. 29th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Chair of Medical Jurisprudence in the University of Edinburgh.

OWING to the resignation of Sir Henry D. Littlejohn of the Professorship of Medical Jurisprudence in the University a vacancy has occurred somewhat unexpectedly. So far only two candidates are in the field, one of whom is Dr. H. Harvey Littlejohn, F.R.C.S. Edin., a son of Sir Henry Littlejohn, and who has been a lecturer on medical jurisprudence in the Extra-mural School of Edinburgh for several years, having previously spent some years in Sheffield as medical officer of health there. The other candidate is Dr. W. G. Aitchison Robertson, F.R.C.P. Edin., who has also lectured for a number of years in the Extra-mural School of Edinburgh on the same subject. The appointment is in

the gift of the Crown on the recommendation of the Secretary for Scotland who, under the new Government, is the Right Hon. John Sinclair, M.P., a son-in-law of Lord Aberdeen.

The Morison Lectures in Edinburgh.

These lectures[1] were favoured by a good attendance, many men engaged in lunacy work having evidently come to Edinburgh to hear them. The lecturer was well heard, and his material was well arranged and fully illustrated by means of lantern slides and microscopic preparations.

The Teaching of Gynæcology in the University of Edinburgh.

It is understood that the University of Edinburgh has decided to separate the teaching of gynæcology from the Chair of Obstetrics. Meanwhile communications are taking place between the managers of the Royal Infirmary and the University with regard to the arrangements to be made in the infirmary. It is not proposed to appoint a professor of gynæcology but to make the new post a lectureship. It is understood that by the Ordinances of the Scottish Universities Edinburgh cannot make a new chair without the sanction of the other Scottish Universities, while there seems to be no such difficulty regarding the establishment of a lectureship. The teaching of gynæcology is necessarily a most difficult and delicate question in this country, particularly in general hospitals with many students. The difficulty is necessarily lessened the greater the number of teachers or of local institutions where limited numbers of students can receive practical instruction, but such arrangements would imply an amount of organisation and of decentralisation which does not come within the horizon of University policy.

The Customs of Hairdressers.

Even to the average layman with a weakness for cleanliness in all that relates to his own person, the customs of hairdressers sometimes give rise to a few qualms. In the case of the medical man educated to a firm belief in asepsis and with a clear knowledge of all the dangers lurking in a barber's "shave" or in the rotary brush it is matter for wonder that he ever has courage to set foot in a barber's shop. Glasgow has determined to remedy this state of affairs, not that she is worse in this respect than other cities, but an effort is to be made to bring the arrangements of all hairdressers' shops up to the standard which already exists in the better class shops of that kind. The health committee has had several meetings with representatives from the Hairdressers' Guild, as the result of which a series of regulations relating to cleanliness and prevention of infection has been adopted by the committee. In addition a register is to be kept by the medical officer of health of the names and addresses of all hairdressers in the city who comply with the regulations and recommendations and apply for registration. A certificate of registration will be issued by the corporation to each hairdresser so registered.

Wastage of Child Life.

A lecture on Wastage of Child Life was delivered in Edinburgh on Jan. 23rd under the auspices of the Parents' National Educational Union by Mr. Broadbent, mayor of Huddersfield. Professor C. Hunter Stewart presided over a large audience of ladies and gentlemen. Mr. Broadbent referred to the fact that the death-rate of children under one year of age was a clear index of the health conditions of the children who survived, and it was probable that for every infant life which might be saved at least six lives might be made better and healthier. Every life lost pointed to many lives injured, and he suggested that many of the unfit had been rendered unfit in the first place by the unfair treatment which they had received in their early infancy. The high death-rate was due not so much to a deficiency of vital force in the infants as to the conditions surrounding them, which made 95 out of 100 infants survive in one part of a town and only 60 out of 100 in another part. The causes which led to this waste of life were ignorance and indifference. Overcrowding, deficient milk-supply, and the employment of married women in factories were secondary influences. The mothers were not to blame. The fault was to be found in the indifference of statesmen and educationists. It was the fault of the so-called educated classes. They had had compulsory education in force nearly 35 years and the result was that the mothers of to-day were as a rule totally ignorant of the elementary duties of motherhood. They did not allow the future mothers to stay at home and learn the elementary duties of motherhood. The girls were compelled to attend school and as soon as they were able they had to go to work. Often everything was done to prevent them having any intimation that motherhood was the highest privilege of their sex. His remedy was to help the mothers in their own homes to feed, tend, and care for their own babies. Mr. Broadbent then explained the system which had been established in Huddersfield. One shilling was given for the prompt notification of any birth and a notice of birth not thus notified was obtained from the registrar. Lady health visitors, appointed by the corporation, paid a visit to the home as soon after a birth as possible, leaving a card of advice and giving whatever good counsel was practicable. After the visit of the lady health visitor the health of the baby was looked after by a voluntary organisation which embraced the whole town in its operations. The work of this organisation consisted of systematic visiting entirely from the health point of view and not for the purpose of giving charity. The attempt was new but it was proving very satisfactory. Dr. T. S. Clouston, Dr. W. Leslie Mackenzie, Dr. Elsie M. Inglis, and others spoke and expressed their interest in the work and dwelt upon the importance of it.

Greenock Infirmary.

In consequence of complaints by ratepayers relating to the fever house of Greenock Infirmary an inquiry has been instituted by the Local Government Board. As regards the alleged difficulty of parents in getting information as to the progress of children who are inmates of the fever house, it has been arranged that all such inquiries are to be made at a certain hour every day instead of on only four days of the week. Another alleged grievance was insufficiency of accommodation in the fever house. Dr. F. Dittmar, however, who is investigating the matter on behalf of the Local Government Board, states that he visited all the wards in which patients, mostly children, were under treatment and found them clean, airy, and well kept. There could be no doubt, on the other hand, that the nurses were very poorly and unsatisfactorily housed and, strictly speaking, some of their rooms were uninhabitable. They were dingy, in some cases damp, and were situated in the basement of the fever house. In several of the rooms inspected by Dr. Dittmar the floors were under the level of the area outside.

The Care of the Insane.

The quarterly meeting of the Aberdeen, Kincardine, and Banff Association of Inspectors of Poor was held on Jan. 27th in the Music Hall Buildings, Aberdeen, at which a paper was read by Dr. Charles Macpherson, Edinburgh, Deputy Commissioner in Lunacy for Scotland, on the subject of "the family care of the insane, more particularly with reference to its present position and possibilities of development in Aberdeen, Kincardine, and Banff." Mr. John W. Gordon, Rathven, President of the society, occupied the chair, and there was a large attendance of members of the association and also of members of the parish councils in the three counties.

Jan. 30th.

IRELAND

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Surgeons in Ireland.

THE annual dinner of the Royal College of Surgeons in Ireland has been announced to take place on Saturday, Feb. 17th. His Excellency the Lord Lieutenant has signified his intention of being present.

Coroners' Inquests in Railway Accident Cases.

A deputation from the Parliamentary Committee of the Irish Trades Congress waited on the Chief Secretary at Dublin Castle on Jan. 27th for the purpose of laying before him some grievances which in its opinion required the attention of the Government. Amongst other matters Mr. Walter Hudson, M.P., the recently elected member for Newcastle-on-Tyne, said that at coroners' inquests in railway accident cases technical experts should be allowed to appear on behalf of the next of kin. The Chief Secretary gave a favourable reply to the suggestion, stating that it rested with the discretion of the coroner but that he saw no reason why the latter should refuse.

Ulster Medical Society.

At the third meeting of the present winter session, held in the Belfast Medical Institute, on Jan. 25th, the President

[1] We publish an abstract of the first lecture on p. 334 of our present issue.—ED. L.

(Dr. W. Calwell) being in the chair, Dr. R. W. Leslie read notes of a case of Pernicious Anæmia treated by Cacodylate of Soda.—Mr. A. B. Mitchell gave an account of a case of Complete Excision of the Scapula and showed a patient in whom enterectomy and gastro jejunostomy were performed at the same sitting; he also showed an Emphysematous Tumour of the Intestine removed from the patient previously exhibited, as well as a cystic kidney successfully removed for hæmaturia and a fibro-cystic tumour of the breast.—Dr. A. Gardner Robb read a note on two unusual cases of Perforation in Typhoid Fever.—Mr. Robert Campbell gave an account of a case in which for chronic Bright's disease he had decapsulated the kidneys (Edebohl's operation).

Belfast Hospital for Sick Children.

At the thirty-third annual meeting of the supporters of this hospital, held on Jan. 25th (the Hon. R. T. O'Neill, M.P., in the chair), it was reported that there were 843 intern cases treated in the wards (427 medical, 401 surgical, and 13 ophthalmic). 365 operations were performed. In the extern department 5196 cases were treated, and of these 2802 were medical, 1562 surgical, 608 dental, and 224 eye and ear cases. In this department 341 operations were performed. Financially, the total income was £1670, as compared with £1447 in the previous year. The cash balance, £368, was less than last year, when it was £800. The total expenditure was £2149, as compared with £2210 last year, and the amount of invested funds was £9817. In the remarks of the various speakers reference was made to the high death-rate among infants in Belfast (146 per 1000) which arose from preventable causes, such as carelessness, insufficient nourishment, and generally from improper feeding. Attention was called to the efforts made by the hospital authorities to prevent this mortality by distributing pamphlets giving directions to mothers relating to the care and feeding of infants. Some of the speakers also suggested that the Hospital Saturday and Sunday collections should be for all the hospitals of the city and they thought that in this way more money would be raised.

Belfast Union Infirmary.

Mr. Joseph Fulton, L.R.C.P. & S. Edin., has been appointed by the Belfast board of guardians visiting surgeon to the Belfast union infirmary in the place of the late Dr. James Lynass.

Jan. 30th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The X Rays and Medical Practice.

TWO recent sessions of the Academy of Medicine—namely, those held on Jan. 9th and 16th—have been devoted to the consideration of this important subject. M. Chauffard, who opened the discussion with a paper which was listened to with rapt attention by the Academy, read in the course of it a report drawn up by him on behalf of a commission which had been appointed to consider the legal conditions of the employment of the x rays for medical purposes. Eight months previously M. Debove drew attention to the many and various dangers to which the use of the x rays on man gave rise in the hands of those who were not legally authorised to practise medicine. At the same date a congress sitting in Berlin had come to the unanimous conclusion that the use of the x rays on man was strictly the province of the medical profession. M. Chauffard pointed out that these rays since their discovery some ten years ago had been made the subject of numerous investigations which had shown that their action was attended by unexpected and powerful results which it was not possible to consider as matters simply of scientific curiosity and that they could not be used by the first comer without any risk. As a matter of fact, the use of these rays had brought about severe and incurable burns of the skin and glandular atrophy of a startling character in persons who were in the habit of working with them. Finally, in many patients treated by these rays for cancer of the tongue the growth had become rapidly disseminated. M. Chauffard maintained that it was a logical deduction to state that only a qualified medical man should use these rays and even ordinary cases of diagnosis by the rays, such as that of a fracture, needed a medical man rightly to interpret the results arrived at. At present any person can use the rays and it is quite time that the authorities should intervene in the interests of the public. Even in cases of simple radiography some surveillance should be exercised, for radiographs could be easily "faked" and give rise to all sorts of errors. M. Chauffard concluded by asking the Academy to declare that the medical application of the x rays by persons who were not doctors of medicine, *officiers de santé*, or duly qualified dentists, should constitute an act of illegal practice. M. Reynier declared that it was not possible to assign all the evil results which had followed the use of the x rays to the want of a diploma in those who used them. Many physicians had to deplore unfortunate results from their employment. For the right use of the x rays it was not enough that a man should be a medical practitioner, he must also have some technical knowledge. A physicist in his opinion could handle the rays better than a medical man. M. Chauffard replied that physicists had had just as bad accidents with the rays as medical men, but they did not use them for medical purposes. M. Cornil discussed the pathological conditions in which the x rays had proved useful or the reverse. In cancer of the mucous orifices or of the tongue they were harmful. M. Reynier said that accidents could be avoided by means of a sound technique and that all medical men should be instructed in such so as to avoid the dangers mentioned. Till then let all x ray treatment be ordered by a medical man but not necessarily applied by a medical man. M. Gariel remarked that it was easier for a medical man to learn physics than for a physicist to learn medicine. M. Brouardel said that great danger arose from the unrestricted use of the x rays. M. Debove said that the persons who treated people with the x rays, other than medical men, were a most motley crowd and the abuse should no longer be tolerated. Treatment by the x rays should be solely in the hands of medical men. Moreover, as a matter of fact, the technique is taught in the course of medical physics at the faculty. M. Labbé and M. le Dentu both protested against the argument founded upon the fact of accidents occurring in the hands of medical men using the rays. The most skilled anæsthetists occasionally had disasters with chloroform. Finally, the Academy unanimously adopted M. Chauffard's conclusions and in future medical men alone will have the right to use the x rays for treatment.

Jan. 30th.

Medical News.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. René du Bois-Reymond of the Physiological Institute has been granted the title of Professor and Dr. Otto Schjerning, Surgeon-General in the German Army, has been appointed an Honorary Professor in the Medical Faculty of the University.—*Breslau:* Dr. Hermann Triepel of Greifswald has been offered the appointment of Senior Prosector in the Anatomical Institute in succession to the late Dr. A. Schaper.—*Erlangen:* Dr. Wolfgang Weichardt has been recognised as *privat-docent* of Experimental Therapeutics.—*Giessen:* Dr. Jesionek of Munich has been appointed Extraordinary Professor of Dermatology.—*Jena:* Dr. Jenn Noll, *privat-docent* of Physiology, Dr. Julius Grober, Assistant in the Medical Clinic, and Dr. Hans Berger, Resident Physician to the University Lunatic Asylum, have been promoted to Extraordinary Professorships.—*Königsberg:* Dr. Richard Runge, Senior Surgeon in the University Clinic, has been granted the rank of Professor.—*Lemberg:* Dr. Josef Wiczkowski, *privat-docent* of Medicine, has been promoted to an Extraordinary Professorship.—*Leyden:* Dr. J. Bruining has been recognised as *privat docent* of Clinical Diagnosis.—*Louvain:* Dr. Schoknert has been appointed Professor of Midwifery.—*Munich:* Dr. Neumayer has been appointed Extraordinary Professor of Laryngology.—*Naples:* Dr. Pasquale Mazzeo has been recognised as *privat-docent* of Children's Diseases. Dr. Vincenzo D'Amato has been recognised as *privat-docent* of Dermatology.—*Pavia:* Dr. Romolo Costa has been recognised as *privat docent* of Midwifery and Gynæcology.—*Prague (Bohemian University):* Dr. O. Völker has been recognised as *privat-docent* of Anatomy.—*Tübingen:* Dr. Kurt Wolf of Dresden has been appointed Professor of Hygiene.—*Vienna:* Dr. J. Donath has been recognised as *privat-docent* of Medicine. There appears to be some difficulty in filling the late Professor Nothnagel's chair of Medicine. Both Professor Quincke of

Kiel and Professor von Strümpel of Breslau have declined it as they could obtain no assurance of changes which they thought necessary.—*Würzburg:* Dr. Paul Roemer, *privat-docent* of Ophthalmology, has been promoted to an Extraordinary Professorship.

MEDICAL BARRISTERS.—The following medical men have been "called to the bar" this term: by Lincoln's Inn, Stanley Melville, M.D. Brux., M.R.C.S. Eng., L.R.C.P. Lond., of Kensington; by the Middle Temple, John Edward O'Connor, M.B.R.U.I., of Leicester, Albert Henry Bygott, M.D. Lond., of Birmingham, and Charles Porter, M.D., B.Sc. Edin., M.R.C.P. Edin., of Sheffield.

UNIVERSITY OF CAMBRIDGE.—The following have passed the examination in tropical medicine and hygiene and are entitled to the University diploma: James Booth-Clarkson, John Crichton Stuart McDouall, and Robert Small.—On Jan. 29th 32 additional freshmen were matriculated, bringing the total for the present academical year up to 1048.—The new regulations with regard to the admission of candidates for M.B. and M.D. who are resident abroad were approved by the Senate on Feb. 1st.—The following candidate was at the same congregation admitted by proxy to the degree of Doctor of Medicine: Owen Frank Paget, M.B., Gonville and Caius College.

PRESENTATION TO A MEDICAL PRACTITIONER.—The Hon. William Thomas Prout, C.M.G., M.B., C.M. Edin., principal medical officer in Sierra Leone, has been presented with an address, a pair of silver rose bowls, and a pair of silver flower vases by members of the West Africa Colonial medical staff to mark their appreciation of the honour which the King recently conferred upon Dr. Prout by making him a Companion of the Order of St. Michael and St. George. The address, which was signed by 13 medical men, referred to the good work which Dr. Prout has done in connexion with sanitary matters in the various stations of the Protectorate.

THE GLASGOW AND WEST OF SCOTLAND CO-OPERATION OF NURSES.—The Glasgow and West of Scotland Co-operation of Trained Nurses has just celebrated the thirteenth anniversary of its foundation and the report recently passed at the annual meeting shows that the institution is in a very flourishing condition indeed. The number of nurses on the roll is 181, the number of cases nursed during the past year is 1772, and the total earnings for the year amount to £10,533. It is a great satisfaction to find that affairs are in such a flourishing condition. The advantages of such an institution to the public, to the medical profession, and more especially to the nurses themselves, are very obvious, and the committee is to be congratulated on the steps that it is taking to establish sick and pension funds for the nurses.

LITERARY INTELLIGENCE.—The St Bride's Press will publish on Feb. 19th a work on "Crematoria in Great Britain and Abroad," by Albert C. Freeman. The author, an architect who has made a close study of this subject, has collected a considerable amount of data and he gives 70 practical illustrations of crematoria, columbaria, and cremating furnaces in use in all parts of the world.—Mr. H. J. Glaisher has just ready Mr. A. de Prenderville's new book entitled "Anæsthetic Technique for Operations on the Nose and Throat."—Messrs. J. and A. Churchill have nearly ready for publication a book entitled "Clinical Applied Anatomy, or the Anatomy of Medicine and Surgery," by Dr. C. R. Box, physician for out-patients and lecturer on applied anatomy, St. Thomas's Hospital, and Mr. W. McAdam Eccles, assistant surgeon and lecturer on surgical anatomy, St. Bartholomew's Hospital. This work describes how the facts of anatomy influence the incidence and progress of disease and injury. No attempt is made to discuss the details of anatomy in a systematic manner, but the various lesions are reviewed and the anatomical points bearing upon them are indicated. Many of the plates are original and coloured and serve to illustrate relationships of great importance.—Mr. Henry Frowde is about to bring out a book written by Dr. F. J. Stevens, the medical officer of health of Camberwell, on the subject of the dissemination and prevention of small-pox. It deals, among other things, with the spread of the disease from hospitals and the ordinary and extraordinary means of conveying the infection from one person to another and discusses the value of measures designed to prevent its spread both from a medical and a financial point of view.

THE GENERAL ELECTION.—The following members of the medical profession have been returned to Parliament: Mr. R. Ambrose, L.R.C.P., L.R.C.S. Edin., re-elected for West Mayo; Sir William J. Collins, M.D. Lond., F.R.C.S. Eng., late chairman of the London County Council, elected for St. Pancras (West); Mr. G. J. Cooper, M.R.C.S. Eng., L.S.A., elected for the Bermondsey division of Southwark; Sir B. Walter Foster, D.C.L., LL.D., M.D. Erlang., F.R.C.P. Lond., re-elected for the Ilkeston Division of Derbyshire; Mr. F. Rutherford Harris, L.R.C.S. Edin., re-elected for the Dulwich division of Camberwell; Mr. G. H. Pollard, M.D. Edin., elected for the Eccles division of Lancashire; Mr. R. J. Price, M.R.C.S. Eng., re-elected for East Norfolk; Mr. A. R. Rainy, M.B., C.M. Edin., elected for the Kilmarnock Burghs; Sir G. S. Robertson, K.C.S.I., M.R.C.S. Eng., L.S.A., I.M.S. (retired), elected for Bradford (Central), and Mr. V. H. Rutherford, M.B. Cantab., &c., elected for the Brentford Division of Middlesex. Amongst those who have lost their seats are Sir Michael Foster, K.C.B., M.P. Lond., and Mr. C. F. Hutchinson, M.D. Edin. The results of the polling for the representation of the Universities of Edinburgh and St. Andrews and the Universities of Glasgow and Aberdeen, for which constituencies Sir John Batty Tuke, M.D., and Professor W. R. Smith, M.D., are respectively candidates, we shall announce next week.

APOTHECARIES' HALL OF IRELAND.—The following were the results of examinations held in January: W. Shaw-Stewart passed in chemistry and junior anatomy, completing the first professional examination; J. E. McDonogh in chemistry and physics; M. Moody in senior anatomy, completing the second professional examination; J. Gillespie in all subjects, D. J. Boyle and J. Hartigan in pharmacy, and N. J. Murphy in hygiene, all completing the third professional examination; M. Moody in hygiene; J. Gillespie and J. Hartigan in medicine, surgery, midwifery, and ophthalmology, completing the fourth (final) professional examination; and D. J. Boyle in medicine, surgery, and midwifery. The diploma entitling the holder to practise medicine, surgery, midwifery, and pharmacy was granted to J. Gillespie and J. Hartigan.

DONATIONS AND BEQUESTS.—An endowment fund of £10,000, producing nearly £300 a year, has been handed over to the Frank James Memorial Hospital at Cowes, of which Princess Henry of Battenberg is the president, by Messrs. James, who gave the hospital.—Under the will of Mr. James Henry Ceely, F.R.C.S. Eng., £500 are bequeathed to Epsom College.—A donation of £100 has been received by the Paddington Green Children's Hospital from a friend who wishes to be known as "Marnie."—The late Mr. Alexander Laing, who died on Oct. 11th, 1905, at Newcastle-upon-Tyne, besides his very generous gift to the city of the art gallery which bears his name, by his will bequeathed £1000 to the Royal Infirmary; £300 each to the Newcastle Dispensary, the Royal Victoria Asylum for the Blind, the Northern Counties Orphanage, the Northern Counties Institution for the Deaf and Dumb, the Fleming Memorial Hospital for Sick Children, the Hospital for Incurables, the Tynemouth Victoria Jubilee Infirmary, North Shields, and the Prudhoe Memorial Convalescent Home, Whitley; also £100 each to the Throat and Ear Hospital, the Eye Infirmary, and the Dental Hospital, all of Newcastle-upon-Tyne.

THE BOHEMIAN TWINS.—In many lay papers there has appeared a notice that the "Bohemian Twins," Misses Rosa and Josepha Blazek, who have been seen in exhibitions in this country, have been separated by an operation at a university in Prague. We have had forwarded to us an interesting letter received from Professor Dr. V. Kukula of Prague correcting the mis-statement. "I have removed," he writes, "from the twins, Misses Rosa and Josepha Blazek, or rather from Miss Rosa, a vesical calculus about the size of a large hen's egg by litholapaxy. This operation was performed under great difficulties. Firstly, it was impossible to put the twins in a suitable position to enable me to operate. Secondly, the bladder did not permit of being filled with liquid; it therefore made it more difficult to manipulate with instruments. The operation was performed with the assistance of chloroform and though Rosa had great pain Josepha felt no pain at all. The sisters have only one urethra up to the point where it divides to enter the two thoroughly distinct bladders.

I agree thoroughly with my English colleagues that an operation to separate the twins is impossible because of the nature of the connecting growth. In the case of one of them dying a separation would at once be necessary, but the success would be very doubtful. I very much regret that although the newspapers of Prague gave a correct report of what had been done nearly all foreign papers state that I have been successful in separating the two bodies. I take this opportunity to ask you to have the matter put in a right light in the English papers."

UNIVERSITY OF OXFORD.—The Vice-Chancellor has appointed the Right Hon. Lord Curzon of Kedleston, M.A., Hon. D.C.L., All Souls College, to be Romanes Lecturer for 1906.—Scholarships in Natural Science are announced for competition as follows: On March 13th, Keble College; and on April 24th, Merton College, New College, and Corpus Christi College.—An examination for a Fellowship of the annual value of £200, tenable for three years, will be held in the present term. The examination will commence on Tuesday, Feb. 27th. Intending candidates should send their names, addresses, and qualifications to the Regius Professor of Medicine, University Museum, on or before Saturday, Feb. 10th. Further particulars will be found in the University *Gazette* of Jan. 23rd (Clarendon Press).

DEATH OF A CENTENARIAN.—The death is announced, at Corfe, near Taunton, on Jan. 25th, of Mrs. B. Warren, at the age of 106 years.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent Garden, W.C.

Sound and Rhythm. By W. Edmunds. Price 2*s.* 6*d.* net. Models of Human Ear to accompany book. Price 21*s.* net.

GLAISHER, HENRY J., 57, Wigmore-street, Cavendish-square, W.

Oliver Wendell Holmes and the Contagiousness of Puerperal Fever. An Address delivered at Marlborough, Wiltshire, to the Trowbridge Division of the Bath and Bristol Branch of the British Medical Association, Oct. 25th, 1905. By Charles J. Cullingworth, M.D., F.R.C.P., D.C.L. (Hon.) Durham, LL.D. (Hon.) Aberdeen, Consulting Obstetric Physician to St. Thomas's Hospital, London. With Portrait. Price 2*s.* 6*d.* net.

LEWIS, H. K., 136, Gower-street, W.C.

The Principles of Bacteriology. A Practical Manual for Students and Physicians. By A. C. Abbott, M.D., Professor of Hygiene and Bacteriology, and Director of the Laboratory of Hygiene, University of Pennsylvania. Seventh edition, enlarged and thoroughly revised. Price 12*s.* 6*d.* net.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, E.C.

The Dissociation of a Personality: a Biographical Study in Abnormal Psychology. By Morton Prince, M.D., Professor of Diseases of the Nervous System, Tufts College Medical School; Physician for Diseases of the Nervous System, Boston City Hospital. Price 10*s.* 6*d.* net.

MACMILLAN AND CO., LIMITED, London.

A Text-Book of the Diseases of the Ear, Nose, and Pharynx. By D. B. St. John Roosa, M.D., LL.D., Professor of Diseases of the Eye and Ear in the New York Post-Graduate Medical School and Hospital, and Beaman Douglass, M.D., Professor of Diseases of the Nose and Throat, in the New York Post-Graduate Medical School and Hospital. Price 12*s.* 6*d.* net.

OWEN, A., AND CO., 23, Regent-street, S.W. (late of 286, High Holborn).

Last Words on Evolution. A Popular Retrospect and Summary. By Ernst Haeckel, Professor at Jena University. Translated from the Second Edition by Joseph McCabe. With Portrait and Three Plates. Price 6*s.*

REBMAN, LIMITED, 129, Shaftesbury-avenue, W.C.

Post-operative Treatment. By Nathan Clark Morse, A.B., M.D., Surgeon-in-Chief to "Emergency Hospital," Eldora, Iowa; District Surgeon, Chicago and Northwestern and Iowa Central Railways; Ex-President, Iowa State Association of R. R. Surgeons. Price 17*s.* 6*d.* net.

SAUNDERS, W. B., AND COMPANY, 9, Henrietta-street, Covent Garden, W.C.

A Manual of the Diseases of Infants and Children. By John Ruhräh, M.D., Clinical Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Price 10*s.* net.

A Text-book of Physiology. For Medical Students and Physicians. By William H. Howell, Ph.D., M.D., LL.D., Professor of Physiology in the Johns Hopkins University, Baltimore. Price 18*s.* net.

Gall-stones and their Surgical Treatment. By B. G. A. Moynihan, M.S. Lond., F.R.C.S. Leeds. Second edition, revised and enlarged. Price 21*s.* net.

Treatise on Diseases of the Skin. For the Use of Advanced Students and Practitioners. By Henry W. Stelwagon, M.D., Ph.D., Professor of Dermatology in the Jefferson Medical College and Woman's Medical College, Philadelphia. Fourth edition, thoroughly revised. Price 25*s.* net.

A Treatise on Diagnostic Methods of Examination. By Prof. Dr. Hermann Sahli, Director of the Medical Clinic, University of Bern. Edited, with Additions, by Francis P. Kinnicutt, M.D., Professor of Clinical Medicine at Columbia University (College of Physicians and Surgeons), New York, and Nath'l Bowditch Potter, M.D., Visiting Physician to the City Hospital and to the French Hospital, New York. Authorised Translation from the Fourth Revised and Enlarged German Edition. Price 27*s.* 6*d.* net.

SCIENTIFIC PRESS, LIMITED, 27 and 28, Southampton-street, Strand, W.C.

Lectures upon the Nursing of Infectious Diseases. By F. J. Woollacott, M.A., M.D., B.Ch. Oxon., D.P.H., Senior Assistant Medical Officer, Park Hospital, Metropolitan Asylums Board. Price 2*s.* 6*d.* net.

SMITH, ELDER, AND CO., 15, Waterloo-place, S.W.

On the Nature, Causes, Variety, and Treatment of Bodily Deformities: in a Series of Lectures delivered at the City Orthopædic Hospital in the Year 1852 and subsequently by the late R. J. Chance, F.R.C.S. Eng., Surgeon to the City Orthopædic Hospital. Edited by John Poland, F.R.C.S. Eng., Surgeon to the City Orthopædic Hospital. Second edition. In two volumes. Vol. I. Price 6*s.* net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BACKHOUSE, JOHN BURDER, M.B., Ch.M. Melb., has been appointed Public Vaccinator for the South-Western District, Victoria, Australia.

BILL, GEORGE, M.B., Ch.M. Edin., has been appointed Public Vaccinator for the North-Eastern District, Victoria, Australia.

BROWN, W. LANGDON, M.D. Cantab., M.R.C.P., has been appointed Physician to the Metropolitan Hospital.

DICKMAN, H. G., M.B., M.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Holbeach District of the county of Lincoln.

FAIRFAX, N. P., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Innerleithen District of the county of Peebles.

GRAHAM, J., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Cockermouth District of the county of Cumberland.

GRANT, J. DUNDAS, M.D. Edin., F.R.C.S. Eng., has been appointed Honorary Aural Surgeon to the Royal Caledonian Asylum, Bushey, Herts.

HALL, I. WALKER, M.D., Ch.B. Vict., has been appointed to the newly formed post of Pathologist, Bacteriologist, and Director of Clinical Laboratories at the Bristol Royal Infirmary.

HAYES, HORACE FREDERICK, M.B., Ch.B. Melb., has been appointed Public Vaccinator for the South-Eastern District, Victoria, Australia.

IVENS, FRANCES, M.B., M.S. Lond., has been appointed Surgical Registrar to the Royal Free Hospital, Gray's Inn-road.

LEMIN, OSCAR E., L.S.A. Lond., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

MACFARLANE, W. D., M.B., M.S. Glasg., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

MERRILEES, JAMES FREDERICK, M.B., Ch.B. Melb., has been appointed Medical Officer of Health for the Shire of Kerang (Kerang District), Victoria, Australia, and Public Vaccinator for the North-Western District.

REID, J., M.B., M.S. Aberd., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Doune District of the county of Perth.

ROCKETT, R. N. F., M.B. Melb., has been appointed Acting District Medical Officer and Acting Public Vaccinator *pro tem.* for Northam, West Australia.

SAUNDERS, J. H., M.B., Ch.B. Melb., has been appointed Acting District Medical Officer and Public Vaccinator for Broome and Quarantine Officer for the Port of Broome, West Australia.

SINCLAIR, THOMAS WALKER, M.B., Ch.B. Melb., has been appointed Assistant Medical Officer of Health for the Metropolitan Combined Districts, Department of Public Health, New South Wales, Australia.

TURNER, A. S., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Beckenham District of the county of Kent.

WAUGH, ALEXANDER, L.R.C.P. Lond., M.R.C.S., has been appointed Deputy Medical Officer for the Midsomer Norton District of the Clutton Union.

WORGER, RICHARD GEORGE, L.R.C.P. Lond., M.R.C.S., L.S.A., has been appointed Deputy Medical Officer for the Radstock District of the Clutton Union.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BRADFORD POOR LAW HOSPITAL AND WORKHOUSE.—Resident Assistant Medical Officer, unmarried. Salary £100, with rations, apartments, and washing.

BRISTOL ROYAL INFIRMARY.—Obstetric Officer, Junior House Surgeon, and Casualty Officer. Salary of former £75 per annum and of two latter £50 each per annum, with board, lodging, and laundry in each case. Also Honorary Physician and Honorary Surgeon.

CANCER HOSPITAL, Fulham-road, London, S.W.—Senior House Surgeon for six months. Salary £80 per annum, with board and residence.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—House Physician, also House Surgeon, both unmarried. Salary in each case £90 a year, with board and lodging.

CENTRAL MIDWIVES BOARD.—Examiners.

CHELTENHAM GENERAL HOSPITAL.—Surgeon-in-Charge of Branch Dispensary, unmarried. Salary £90 per annum, with board and lodging. Also Junior House Surgeon, unmarried. Salary £60 per annum, with board and lodging.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Two Physicians to Out-patients.

DUBLIN, RICHMOND DISTRICT ASYLUM.—Two Clinical Assistants. Salary £80 per annum, with apartments and rations.

DURHAM COUNTY COUNCIL.—Inspector of Midwives and Health Visitor (female). Salary £120 per annum, rising to £150, with travelling expenses.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—Assistant House Surgeon. Salary £50, with board, residence, and laundry.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—Assistant Casualty Medical Officer, unmarried, for six months. Salary £20, with board and residence. Also House Physician, unmarried, for six months. Salary £20, with board and residence. Also Assistant Surgeon.

LARBERT, STIRLING DISTRICT ASYLUM.—Assistant Medical Officer. Salary £150, with board.

LEEDS GENERAL INFIRMARY.—Resident Medical Officer. Salary £100 per annum, with board, residence, and washing. Also Clinical Pathologist. Salary £200 per annum.

LEICESTER INFIRMARY.—Assistant House Physician for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

LONDON COUNTY COUNCIL.—Medical Officer to Employés in the Boroughs of Hammersmith and Fulham.

LINCOLN COUNTY HOSPITAL.—Senior House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

MANCHESTER, ANCOATS HOSPITAL.—Resident House Surgeon. Also Resident House Physician. Salary of former £100 and of latter £80 per annum, with board, residence, &c., in each case.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Honorary Surgeon.

MARGATE, ROYAL SEA BATHING HOSPITAL.—Resident Surgeon. Salary at rate of £80 and £120 per annum, with board and residence.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—Assistant Physician.

MILTON AND SITTINGBOURNE.—Medical Officer of Health. Salary £450 per annum.

NEWCASTLE-ON-TYNE DISPENSARY.—Two Visiting Medical Assistants. Salary £160, rising to £180 per annum.

OXFORD, RADCLIFFE INFIRMARY.—House Physician and Junior House Surgeon (both unmarried) for six months. Salaries at rate of £80 and £40 per annum, with board, &c.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Anæsthetist and Curator of Museum (female).

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Assistant House Surgeon for six months. Honorarium at rate of £75 per annum, with board, lodging, and washing.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Ashton-under-Lyne, in the county of Lancaster; at Belfast, in the counties of Antrim and Down; at Dunkinfield, in the county of Chester; at Tuam, in the county of Galway; at Foxford, in the county of Mayo; and at Oxford, in the county of Oxford.

Births, Marriages, and Deaths.

BIRTHS.

FRASER.—On Jan. 28th, at Ingleside, Lower Edmonton, N., the wife of Simon Fraser, M.B., of a daughter.

HERBERT.—On Jan. 28th, at Carrington House, Pendlebury, Manchester, the wife of J. W. Chambers Herbert, Surgeon, of a daughter.

WAGSTAFF.—On Jan. 26th, at Saffron Walden, Essex, the wife of Frank A. Wagstaff, M.R.C.S., L.R.C.P., of a daughter.

DEATHS.

FOTHERGILL.—Smart Atkinson Fothergill, M.R.C.S., L.R.C.P. Edin., Haswell, Sunderland, co. Durham, died on 30th January, 1906, aged 68 years.

HUBBARD.—On Jan. 26th, at Grindelwald, Switzerland, of pneumonia, Henry William Hubbard, Lieutenant-Colonel, R.A.M.C., in his 50th year.

LEDGARD.—On Jan. 23rd, at Kirkby Lonsdale, William Edward Ledgard, L.R.C.P. Edin., M.R.C.S. Eng., aged 59 years.

PAINE.—On Saturday, Jan. 6th, at Bournemouth, George Reuben Robins Paine, M.R.C.S., L.R.C.P., late of Lympstone, Devon. Laid to rest in Fordingbridge Cemetery.

WELLER.—On the 25th of Jan., at his residence, Russell Lodge, 16, Heathfield-road, S. Croydon, George Weller, M.R.C.S. Eng., L.S.A., late of Wanstead, aged 66.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE AMERICAN QUACK.

A CORRESPONDENT who writes from Newcastle-on-Tyne and who is not a medical man but a layman sends us cuttings from the *Evening Chronicle*, a Newcastle paper, of Jan. 22nd, from the *Newcastle Daily Chronicle* of Jan. 10th, and also a publication called "The American X Ray Messenger," which is undated, but is stated to be published by the English branch of the American Institute, Fernwood-road, Newcastle-on-Tyne. This latter publication is simply and solely devoted to trumpeting the talents of an American called C. J. Macaura who is stated to be a graduate of the National Medical University of Chicago. This institution which, according to the *Newcastle Daily Chronicle*, is the "leading medical school in Chicago" (we wonder what the Rush Medical College will say to this), is a homœopathic establishment and was, according to the Standard Medical Directory of North America for 1903-04, organised in 1891, but in the list of American physicians published in the same directory we are unable to find Dr. Macaura's name. It is quite obvious from the "American X Ray Messenger" that he is a man of the regular type of American quack. There are testimonials purporting to come from various Nonconformist ministers, lady journalists, and a dentist called "J. James, M.D., D.D.S., F.R.S.L.," who, however, appears in the Dentists' Register as being qualified to practise because he was in practice before 1878, and there is also a testimonial from "a well-known Bradford physician," signed "J. Bradley, L.R.C.P., L.F.P.S.G., 2, Rand-street, Bradford." If Mr. Bradley really did give this testimonial it appears to us that the General Medical Council should take some notice thereof. Newcastle-on-Tyne has just returned two Labour Members to Parliament and it is astonishing that such a hard-headed community should, if we may trust what appear to be editorial paragraphs in the Newcastle papers which we have mentioned, be so easily duped.

THE SALARIES OF POOR-LAW MEDICAL OFFICERS.

To the Editors of THE LANCET.

SIRS,—Now that the Poor-law Commission is sitting I wonder if the salaries and fees paid to Poor-law medical officers will come under review. The present scale must, I think, be admitted as most inadequate for the services rendered by the members of a learned profession. Is the paucity of medical men in Parliament partly responsible for this? and is the far larger number of members of the legal profession in the House of Commons the reason of legal appointments being as a rule so much better paid? It would be interesting to compare the duties, responsibilities, and emoluments of, say, a revising barrister and of a parish medical officer. Perhaps someone acquainted with the work of both appointments would do this for us? If we complain of our poor reward we are soon told that there are plenty of other men who would be glad of the post. But this, I maintain, does not meet the case at all and is a quite unworthy argument. If the position of a revising barrister was advertised for competition at half the salary now paid the number of candidates would, I am convinced, excite some comment. I am, Sirs, yours faithfully,

Jan. 30th, 1906. M.O.

CONCERNING TUCKER: A WARNING.

THE man Tucker, whose real name appears to be John Dale Tucker, concerning whom we published a paragraph in THE LANCET of Jan. 27th, was on Jan. 25th charged on a warrant issued by the Director of Public Prosecutions at the Southam Petty Sessions, the charge being one of feloniously giving a false certificate relating to the death of Mary Lyne. The prisoner was remanded until Jan. 31st, bail being refused.

WANTED—A HOME.

THE daughter of a medical man in straitened circumstances has been recommended a short course of the "Weir-Mitchell" treatment. Her relatives can pay one guinea a week for six or eight weeks and her father would be very glad to learn of any institution where the assistance required could be obtained. We will forward any communications that we may receive.

THE REGISTRATION OF BIRTHS.

THE Kensington borough council is circularising the municipal bodies throughout England and Wales asking coöperation in approaching the Local Government Board with the object of urging that department to promote legislation for reducing the time allowed for the registration of births from 42 days to 21 days, as in Scotland. Under the present system particulars of the registration of children who die within the first month of life only reach the medical officer of health at about the same time as the registration of the child's death, and the motive of the Kensington borough council in taking the action above referred to is that if the period for registration were reduced the notification of the birth would be received in time to allow of such advice being given to the mother as might in some cases result in the saving of the infant's life.

AN ORIENTAL REMEDY FOR DOG BITES.

A CORRESPONDENT in the Indian Medical Service forwards to us the following prescription and letter of warning which were given to him by a Babu:—

Medicine for dog bite, known to me, by which I have cured many.

1. Rubbing *Kuchla* (fruit Strychnia) with a very small quantity of water (say five or six drops) and applying that paste to the wounded part daily once.

2. Taking only two hairs from *e nother* dog—i.e., not the dog that has bitten—putting them in a piece of plantain, and swallowing up that piece with two hairs within. On any Sunday.

At Oral one dog suffering from hydrophobia bate six or seven; all died except the man who made use of the medicine—from me.

1.10.05. N. K.

SIR,—I forgot to note down with reference to Kuchla (fruit Strychnia) that it is poisonous—specially for the dogs. It should be carefully rubbed; and the thing on which it is rubbed should be instantly washed, so that no dog may take the smell, or lick over the rubbed part. In short Kuchla is *poisonous*, poisonous. Kindly note. I am, Sir, your M.O. servt.,

N. K.

Kuchla is the strychnos nux vomica, of which the fruit has been said to be non-poisonous, but according to "The National Standard Dispensatory, 1905" (Churchill), the pulp contains strychnine. It is interesting to note in the second part of the prescription that the hair is not to be "a hair of the dog that bit you," but that of another dog, contrary to the usual proverb.

THE USE OF PARAFFIN IN NASAL DEFORMITIES.

To the Editors of THE LANCET.

SIRS,—Could any of your readers tell me whether time has shown that the advantage of this method of treatment is likely to be permanent? In suitable cases is there any risk of such subsequent ocular and intraorbital lesions as are reported in THE LANCET of Oct. 7th last to have come under the observation of M. Rohmer of Nancy? After the injection of paraffin is the colour of the skin of the nose uniform?

I am, Sirs, yours faithfully,

Jan. 30th, 1906. A. B. C

SUPERCILIARY GYMNASTICS.

To the Editors of THE LANCET.

SIRS,—In reference to the paragraph headed "Superciliary Gymnastics," I may say that I have been able to do the same thing since I was 12 years old and I am now 37. I can also move any ear and keep the other still, or both at one time; also move the nostrils.

I am, Sirs, yours faithfully,

Dundee, Jan. 30th, 1906. JAMES S. DOIG.

To the Editors of THE LANCET.

SIRS,—On the subject of gymnastic eyebrows, I should like to inform you that I am able to raise one and lower the other eyebrow simultaneously and alternately as mentioned in the paragraph named and should be pleased to give any further information you may require.

I am, Sirs, yours faithfully,

Jan. 28th, 1906. ERNEST J. BELL.

THE DENTAL SALIVA EJECTOR IN GENERAL SURGERY.

To the Editors of THE LANCET.

SIRS,—I was interested to read in THE LANCET of Jan. 20th, p. 162, that Dr. R. H. Woods of Dublin had used the dental saliva ejector in laryngeal operations. During the past year I have used it in intra-oral operations on several occasions and can corroborate Dr. Woods's favourable report as to its utility. I hope to see it before long used more generally by surgeons.—I am, Sirs, yours faithfully,

A. L. FLEMMING,

Jan. 30th, 1906. Anæsthetist, Bristol Royal Infirmary.

E. K.—We are obliged for our correspondent's kindly worded criticism, although the particular illustration referred to does not appear to be of a belt intended for the purpose suggested; still we are alive to the possibilities of mistake in this direction and will keep the subject in mind.

ERRATUM.—In the review of a book entitled "Cattle Tuberculosis" which appeared on p. 235 of THE LANCET of Jan. 27th the price was given as 2*s*. The price should have been 3*s*.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*St. Louis Medical Review, Notts Guardian, Dublin Express, Daily Chronicle, Dublin Times, Birmingham Post, Surrey Advertiser, Freeman's Journal, The Scotsman, Evening News, Liverpool Mercury and Journal, Daily News, Star, Westminster Gazette, American Medicine, Sheffield Independent, Northampton Daily Reporter, Bristol News, Newcastle Mail, Darlington Times, &c.*

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (5th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (3 P.M.).

TUESDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (7th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (8th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.).

FRIDAY (9th).—London (2 P.M.), St. Batholomew's (1.30 P.M.), St Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.) Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.).

SATURDAY (10th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (5th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—9 P.M. Lettsomian Lecture:—Mr. C. A. Ballance: Some Points in the Surgery of the Brain and its Membranes. Lecture I.: Reminiscences of Dr. Lettsom and Some Points in the Surgery of Meningitis.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos street, Cavendish-square, W.).—4.30 P.M. Cases, &c., will be shown by Mr. Macleod Yearsley, Mr. A. A. Gray, Mr. L. Lawrence, Mr. Milligan, Mr. Whitehead, and Mr. D. Grant.

TUESDAY (6th).—PATHOLOGICAL SOCIETY OF LONDON (Lister Institute, Chelsea gardens).—5 P.M. Laboratory Meeting. Dr. Macfadyen: The Bacteriolytic and Agglutinative Properties of the Serum of Goats inoculated with Typhoid Cell-juice.—Dr. Bainbridge and Dr. Leathes: The Fatty Change in the Liver produced by Ligature of the Hepatic Artery.—Mr. Dudgeon and Dr. Leathes: The Fatty Change in the Heart caused by Diphtheria Toxin.—Dr. MacConkey: Immunisation between Bacillus Pestis and Bacillus Pseudo-tuberculosis Rodentium.—Dr. Ledingham: Natural Occurrence of Weil's Disease in the Guinea-pig.—Mr. Moon: Sarcocystis Naris. Demonstrations will be given by Dr. C. J. Martin, Dr. Harden, Dr. Barratt, Dr. Marshall and Dr. Green.

SOCIETY OF ARTS (John-street, Adelphi, W.C.).—4.30 P.M. Paper:—Mr. O. C. Beale: Imperial Immigration.

WEDNESDAY (7th).—SOCIETY OF ARTS (John-street, Adelphi, W.C.).—8 P.M. Paper:—Mr. L. Gaster: Progress in Electric Lighting.

OBSTETRICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. Specimens will be shown by Dr. Horrocks, Mr. Targett, and Dr. Handfield-Jones: Short Communication: Dr. H. R. Spencer: A Second Case of Ovariotomy during Labour. The President (Dr. Dakin): Annual Address.

THURSDAY (8th).—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-street, Cavendish square, W.).—8 P.M. Cases will be shown by Mr. A. Lawson, Mr. G. Coats, Mr. S. Morton, and others. 9 P.M. Clinical Evening.

HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road, W.).—Papers:—Mr. C. Williams: The Ethics of the Profession in Relation to Syphilis and Gonorrhœa.—Dr. J. J. Perkins: Tubercular Pleurisy—its Treatment and Diagnosis by New Methods.

BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Dr. Jellett: (1) Advanced Carcinoma of both Ovaries; (2) Double Pyosalpinx associated with the Presence of a Four Months Extra-uterine Fœtus.—Dr. B. Fenwick: Two Cases of Fibroid Uterus

complicated by Pregnancy.—Dr. H. Macnaughton-Jones: A Note on Cysts of the Vagina. Paper:—Dr. Jellett: Notes on Two Rare Conditions met with in the Pelvis during Operation. The President: Inaugural Address.

CHILDHOOD SOCIETY AND THE BRITISH CHILD STUDY ASSOCIATION (Parkes Museum, Margaret street, W.).—8 P.M. Lecture:—Mr. J. C. Hudson: American Schools and their Relation to the Child and to Society. (Arranged by the British Child-Study Association.)

FRIDAY (9th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Papers:—Mr. B. G. A. Moynihan: A Review of 59 Cases of Cancer of the Stomach treated by Operation.—Mr. J. Sherren: Three Cases of Intestinal Obstruction.—Dr Garrod and Dr. Langmead: Associated Malformations, including Transposition of Viscera.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (5th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. M. H. MacLeod: Clinique. (Skin). 5.15 P.M. Lecture:—Dr. L. Williams: The Therapeutics of Some Common Ailments.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Hood: Mitral Stenosis. (Lecture I.)

TUESDAY (6th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. T. Williams: Clinique. (Medical.) 5.15 P.M. Lecture:—Dr. D. Grant: The Dangerous Sequelæ of Suppuration in the Middle Ear—Diagnosis.

POST-GRADUATE COLLEGE (London County Asylum, Claybury, Woodford Bridge, Essex).—3 P.M. Dr. R. Jones: Types of Mental Diseases.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Clinical Lecture:—Dr. J. Taylor: Epilepsy.

NORTH-EAST LONDON POST GRADUATE COLLEGE (Colney Hatch Asylum, New Southgate, N.).—3.30 P.M. Dr. H. Corner: Demonstration on Delusional Insanity.

WEDNESDAY (7th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Clarke: Clinique. (Surgical.) 5.15 P.M. Lecture: Dr. J. Cantlie: The Tropical Ailments commonly met with in Britain.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Ll. Williams: Dental Diseases in Relation to General Diseases.

UNIVERSITY COLLEGE HOSPITAL (Gower-street, W.C.).—4 P.M. Clinical Lecture:—Sir Victor Horsley: Surgery of the Spinal Cord.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Demonstration: Dr. W. Wingrave: Special Pathology.

THURSDAY (8th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M. Lecture:—Dr. F. J. McCann: Abortion and Premature Labour.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Keetley: Plastic Surgery.

CHARING CROSS HOSPITAL.—4 P.M. Mr. Waterhouse: Demonstration of Surgical Cases. (Post-Graduate Course.)

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone road, N.W.).—3 P.M. Lecture:—Dr. McCann: Cancer of the Uterus.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—6 P.M. Dr. M. Dockrell: Syphilis: Eruptions—Erythematous (I., Macular; II., Maculo-papular); Papular (I., Miliary; II., Lenticular; III., Squamous; IV., Moist). (Chesterfield Lecture.)

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (7, Fitzroy-square, W.).—5 P.M. Lecture:—Dr. G. Johnston: Spasmodic Asthma and its Treatment. (Post-Graduate Course.)

HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Lecture:—Dr. Colman: Pyrexia in Children.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Clinical Lecture:—Dr. D. Forsyth: The Diagnostic Value of Referred Pain.

FRIDAY (9th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Horne: Clinique. (Throat.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Abraham: Cases of Skin Disease.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Clinical Lecture:—Dr. J. Taylor: Syphilis of Nervous System.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1905, which was completed with the issue of Dec. 30th, were given in THE LANCET of Jan. 6th, 1906.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1905 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

THE LANCET AT THE RAILWAY BOOKSTALLS.

READERS who usually obtain their copies of THE LANCET at the bookstalls on the Great Western, the London and North Western, and the minor systems in connexion with these railways, are requested to communicate with the Manager, 423, Strand, London, W.C., if they experience any difficulty in getting copies of THE LANCET at these bookstalls, Messrs. W. H. Smith and Son's connexion with them having now terminated.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 1st, 1906.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks
Jan. 26	29·91	W.	0·09	67	54	43	46	47	Overcast
„ 27	30·12	W.	...	76	53	47	47	49	Cloudy
„ 28	30·20	S.W.	...	61	52	47	46	48	Cloudy
„ 29	30·10	W.	...	77	53	48	46	48	Overcast
„ 30	30·35	S.W.	0·02	66	50	38	38	39	Overcast
„ 31	30·37	W.	...	61	48	39	40	41	Foggy
Feb. 1	30·22	S.W.	...	49	48	40	44	46	Overcast

Communications, Letters, &c., have been received from—

A.—Mr. J. Astier, Asnières; Mr. J. J. Armitage, Rouen; Aerators, Ltd., Lond.; Ancoats Hospital, Manchester, Secretary of.

B.—Dr. W. J. Bruce, Lond.; Bristol Royal Infirmary, Secretary of; T. B. Browne, Ltd., Lond.; Mr. K. S. Basu, Hissar, India; Mr. R. G. Badger, Boston, U.S.A.; Mr. J. W. Benson, Lond.; Dr. George A. Bruce, Aberdeen; Mr. W. G. Burcombe, Lincoln; Mr. J. Stoddart Barr, Glasgow; Dr. John J. Buchan, St. Helens; Bovril, Ltd, Lond.; Dr. Robert J. M. Buchanan, Liverpool; Mr. Ernest J. Bell, Lond.; Bristol Royal Hospital for Sick Children, Secretary of; Bristol Medico-Chirurgical Society, Hon. Secretary of; Messrs. Baxter, Payne, and Lepper, Lond.; Mr. C. S. Bowker, Pontnewydd.

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F.—Rev. J. B. Ferry, Wragby; Messrs. Flint, Pitt, and Durbridge, Lond.; Dr. L. Fothergill, Brampton Junction; Messrs. Feuerheerd Bros. and Co., Lond.; Mr. W. Feddie Fedden, Lond.; Mr. T. W. Fielding, Lond.; Dr. A. Dingwall Fordyce, Brucklay; Dr. A. M. Fernandez de Ybarra, New York.

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